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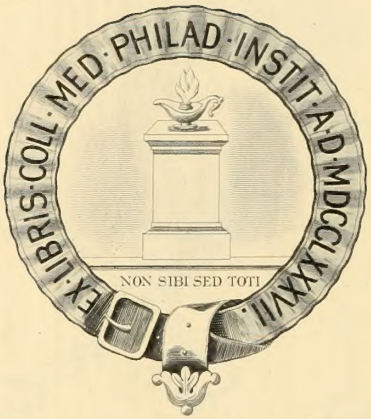

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THE MEDICAL AGE

A SEMI-MONTHLY JOURNAL OF

MEDICINE AND SURGERY

FREDERICK W. MANN, M.D.
EDITOR

VOLUME XXIII

SEP -1 1906

DETROIT, MICHIGAN
E. G. SWIFT, PUBLISHER
1905

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THE MEDICAL AGE

Vol. XXIII. DETROIT, JANUARY 10, 1905. No. 1.

ORIGINAL CONTRIBUTIONS.

THE APPENDIX VERMIFORMIS.

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The appendix is not, as its name suggests, an outgrowth or diverticulum from the intestine, but the unexpanded part of the fetal cæcum. The cæcum is necessarily large in animals subsisting on coarse, voluminous food, largely of a vegetable nature, but small in the carnivora, whose food is comparatively concentrated and easily digestible. The large intestine seems to have been evolved for the conservation of water. While present in practically all land animals, of size such that water must be taken in notable quantities, its development is quite directly proportionate to the need of caution in regard to waste of water, and an excess of development is noted mainly in the proximal portion—that is, the cæco-appendix. While the ostrich is conspicuous in the possession of a very long—six feet or thereabouts—cæcal pouch, often termed an appendix, this term should be reserved for a rudimentary cæcal pouch indicating that, in the process of evolution, the animal is losing this portion of its cæcum. In this sense the appendix is peculiar to man, some species of monkeys, and the wombat.

From purely ethnologic and archeologic study, man must be considered to have been originally a vegetarian animal, subsisting on tubers, roots, seeds, berries, etc. Even in the earliest state of savagery of which we have knowledge from observation and archeologic exploration, man had become a hunter and fisher and had discovered the advantages of fire in preparing food. The negative evidence of archeology is, however, by no means proof that man was originally a flesh-eating and fire-using animal. Obviously, until man made stone weapons and began to use fire

he left no trace of his activity. In such a primitive state he would not even hide his dead in such a way that the bones would be preserved till the present, and even if his skeleton should be fortuitously preserved, we could not distinguish it from those of very early man of the weapon-making and fire-using stage.

The most casual inspection of the teeth of savages shows that while they were, on the average, much less prone to actual caries than those of civilized man, they were worn to the dentine in early adult life, when ours are merely blunted from their pristine sharpness. Thus it is easy to infer that civilization has rendered it possible for man to subsist on comparatively digestible and concentrated nourishment, as, indeed, we know from direct evidence. Thus the atrophy of the appendix, begun in prehistoric times, is probably progressing with relative rapidity at present, though it will doubtless be many thousand years before the appendix will be regarded by anatomists as an atavistic anomaly. We know from history that savages frequently died in colic, and at least one Egyptian mummy has yielded the characteristic lesions of septic scolecitis. It must also be considered that what we call "appendicitis" (better, *scolecitis*) was called peritonitis only a few years ago, and has long been known as inflammation of the bowels. Moreover, our diagnostic acumen is increasing, and we have abundant operative proof that the diagnosis of appendicitis is made in many cases without sufficient pathologic basis. Then, too, food which tends to cause atrophy of the appendix as a useless organ also is comparatively unirritating, and the present tendency is toward sanitary food and healthy activity of the bowels. Thus it is exceedingly difficult to decide whether the often expressed conviction of the increasing frequency of appendicitis is warranted or not.

Without regard to this question we must consider the appendix as a *locus minoris resistentiæ,* because it is a disappearing organ, and especially because of its usual poor blood-supply and richness in inflammable lymphoid tissue. Still it may be questioned whether the appendix is really richer in lymphoid tissue than any corresponding length of cæcum which has expanded from its original fetal diameter. Whether the appendix or any other organ, such as the tonsil and thymus, is less resistant than the normal standard, simply because it is useless and not actively functionating, is a question that becomes more and more difficult to answer as we study it, though it is usually answered offhand in the affirmative.

In addition to its intrinsic lack of resistance, the appendix,

like all other parts of the alimentary canal, is constantly exposed to saprophytes which are facultatively pyogenic. These germs, and especially the colon bacillus, are most active and most numerous in the large intestine, and the current here is toward the intestinal wall on account of absorption of water, rather than in the reverse direction, on account of free secretion. Moreover, on account of its anatomy, any object which may be mechanically or chemically irritant, or any bacterium, is liable to longer delay in the appendix than in the portions of the bowel which bound the direct outward current. In this respect different appendixes vary greatly. Some are so placed as to admit the current from the ileocæcal valve directly. Some are comparatively large and muscular and empty themselves as easily as they are filled. Some are congenitally long, narrow, weak, tortuous, and tied against peristaltic action by their natural adhesions. In other cases some or all of these conditions are due to antecedent disease. Nearly all ducts and diverticula are slightly narrower at their point of discharge than behind it. The appendix is quite often so narrow at its outlet that the slightest hyperemia or inflammatory exudate produces a closure, and I have encountered one in which this closure was so tight that the appendix was a tensely fluctuating cyst whose closure was as perfect as if a ligature had been fastened about it, even after its amputation from the cæcum.

It is worth while to consider that the serious nature of scolecitis is purely an anatomic accident. An acute suppurative inflammation of the lymphoid tissue of the appendix is exactly what takes place in the tonsil, in quinsy. Even the early constitutional effect is no greater in one than in the other. It is only the proximity of the peritoneum that makes the one comparatively trivial and the other markedly fatal. A still closer comparison may be drawn between the appendix and the gall-bladder, a Meckel's diverticulum and the Fallopian tube. A pyosalpinx results in fatal septic peritonitis much more rarely than a pyoscolex, even restricting ourselves to sepsis and excluding gonococcic infection, not so much because of the possibility of distal drainage, for this is usually shut off by inflammatory lesions, as because the pus tube is stronger walled and the facilities for conservative adhesions are better. In the case of a Meckel's diverticulum and the gall-bladder, opportunities for protective adhesions are equally poor, but the walls of the empyema are stronger, the ability to distend greater, and the possibility of delayed discharge into the intestine greater, than

in the case of the appendix. Regarding the matter of protective adhesions, I may be pardoned for venturing to give advice to surgeons, based on a considerable opportunity for studying abdominal conditions in connection with operators. Such adhesions are to be regarded as fortunate occurrences, but by no means to be depended upon, whether in the case of the appendix, a hepatic abscess, or any other abdominal condition.

The appendix is liable to occasional involvement in specific processes, such as cancer, sarcoma, other neoplasms, tuberculosis, syphilis, typhoid, actinomycosis, influenza and possibly rheumatism, and pneumonia.

For practical purposes we may recognize (1) ordinary catarrhal scolecitis, similar in etiology and nature to general typhlitis or colitis. It is scarcely worth while to answer such extreme surgeons as deny the existence of catarrhal conditions of the appendix and cæcum, as they adduce no proof that the mucous membrane of this particular region is immune to the general pathology of mucous membranes. (2) An interstitial inflammation or degeneration similar to that which occurs in the submucous tissues elsewhere, and necessarily leading to stricture unless absolutely uniform in its progression. If the strictures are mild in degree, this process is favorable as tending to atrophy. (3) Acute inflammations, essentially bacterial, which may be limited to the mucous membrane, with discharge of muco-pus into the intestine; which may produce phlegmonous inflammation of the appendix itself with discharge internally or into the peritoneum, or which may induce gangrene. While perforation may occur through a normal or slightly inflamed appendix, by the pressure of a calcareous mass, lumbricoid, etc., or by actual traumatism by a pin, sharp bristle, spicule of glass, etc., such an accident is no more preventable for the appendix than for the intestine generally, and medically speaking, septic inflammation is to be regarded as *the* cause of a perforation of the appendix. Gangrene may arise as the result of infarction—embolic or thrombotic—or possibly angiospasm, as in the stomach, independently of acute inflammation, or the appendix may become strangulated in an adhesion, but usually gangrene is a sequela of inflammation of acute grade.

The various sequelæ of perforation and septic extension must, of course, be thoroughly understood, both by the operator and by the physician. I recall a case seen in consultation with a surgeon, which had been neglected for a month. In the face of a visible, well defined tumor of the southwest region of the

abdomen, the attending physician pointed out to us that the present condition must be a general peritonitis. After the operation, which revealed part of the gangrenous appendix floating in a fecal abscess—indeed, part of the appendix had already been passed by the bowel—the same physician told us of the vast experience he had had with such cases, and we were ethical and forebore to tell him that we might forgive him if he had never seen but two or three. But, after all, the proper treatment of the various possible sequelæ of gangrene and perforation is not to let them occur.

A definite specific treatment for each disease is always satisfactory to the ease-loving physician, but the best interests of the patient require discrimination, and this implies responsibility and anxious study. The former method of treatment by opiates and the radical surgeon's ideal of immediate operation for every pain in the southwest of the abdomen, especially if attended with more definite signs of scolecitis, are equally simple for the attending physician. It is questionable to what degree we should fall in with the idea of some stoic patients, "If thine appendix offend thee, cut it out," and whether we should regard the removal of the appendix as a sort of circumcision to be practiced as a prophylactic measure in health, or at least upon the slightest evidence of disease. There is, however, no question at all as to our duty when we have to deal with the average patient, who does not wish to incur the risk of operation, and who demands of us a discriminating practice, according to the individual indications. We must for practical purposes divide our cases into three groups:

1. Acute and chronic cases which may be cured medically, corresponding to the first and to the fairly uniformly affected cases of the second class just considered.

2. Cases for immediate operation—septic inflammation, perforation, and gangrene, seen fairly early.

3. Cases for interval operation, including neglected cases of the preceding group, seen when well on the way to recovery in spite of neglect, and those of the chronic, atrophic, interstitial form, in which the appendix is so strictured or affected with calculi as to be incurable medically, but in which there is no great urgency of symptoms.

I do not include in any of these groups subacute, catarrhal, recurring cases, being convinced that these cases really depend upon a chronic catarrh, not necessarily always involving the appendix, but seated in the cæcum and occasionally lighted up in the appendix. If treated only symptomatically when the con-

dition is urgent, such cases will continue to recur, although usually with fewer and fewer acute, dangerous manifestations. Properly and systematically treated, they will not be recurrent, except as any chronic lesion may be expected to present fluctuations in severity, or as any disease which does not confer a definite immunity may be repeated. Either a cure can be accomplished, or they will fall under the category of interstitial degeneration, which has already been discussed.

It would prolong this paper unduly to consider in detail diagnosis and treatment. Except in plain cases, inflammations of the appendix fall under the same rule as should apply to all grave and obscure diseases, especially of the cranium, thorax, and abdomen—namely, that they should be considered both from the medical and surgical standpoint, by experts. The physician in general practice may be an expert operator, the surgeon may be a skilled medical diagnostician, but the growing demands of medical art and science combine to make either of these possibilities highly improbable. If the attending physician is himself an expert in medical diagnosis, he may rightly decide when to summon the surgeon and how to direct the operation in a general way. If the surgeon is also an expert internist, he may with equal propriety perform the duties of both. But if the attending physician is not, in his own candid opinion, an expert, and if the surgeon is what is usually implied in that term, the doubtful, vague, border-line case lacks an important element in its care if the appropriate medical consultant is not also called.

A STUDY OF THE DISEASES OF THE PROSTATE GLAND AND THEIR TREATMENT.

BY M. E. FITCH, M.D., PHILADELPHIA, PA.

This is a growing field and of special interest to old men, for the prostate gland is unknown apparently until a man has reached a certain age; then it may make life unbearable. Much progress has been made in recent years—for example, Fuller has devised an original operation for gaining access to the seminal vesicles and prostate gland. The patient is placed upon the table with his face and abdomen down, and his thighs are flexed upon the abdomen astride of the table. The portion of the table which supports the pelvis is then elevated as in the Trendelenburg position. The incision extends on either side of the anus along the inner side of the tuber ischii, and is connected by a transverse cut across the perineum about three-fourths of an inch anterior to the anus. The

rectum is then carefully lifted up and separated from the urethra and bladder by careful incision. The finger in the rectum enables the operator to avoid wounding this organ. Fuller has used this method for operations of various kinds upon the seminal vesicles, and has found it most satisfactory.

Guyon recognizes three stages in prostatic hypertrophy: (1) Congestion; (2) incomplete retention; and (3) distention and atony of the vesical reservoir, with incontinence and overflow. In the first stage sedatives and opiates increase the congestive tendency. Iodide of sodium in doses of 20 to 50 centigrammes each day, as acting beneficially on the general system, is recommended, all local treatment being interdicted. In the second stage, where chronic retention requires artificial assistance, the strictest antisepsis should be enjoined; "often we see old men neglecting not only antisepsis but the ordinary rules of cleanliness, carrying their catheter in the pocket, or the hat, moistening it with saliva in order to lubricate it. It is none the less true that such carelessness is dangerous, that the bladder will be sooner or later inoculated, and the more rapidly the less precaution taken." Where vesical suppuration exists antiseptics are necessary: boric acid in ordinary cases, nitrate of silver (1 to 1000) or some of the newer silver salts in more advanced ones. Washing out the bladder should lift up and remove the mucosities and deposits accumulated in irregular bladders, and not constitute a sort of irrigation which passes beneath the mucosities without removing them. In the third stage resort to liquid or semisolid aliments, such as purées of meat, eggs, milk, and good wine, while catheterism at this stage requires the most delicate handling. If renal insufficiency is certainly demonstrated it is much better to abstain; in other cases the catheter may be used with all precaution. We should not proceed to a rapid evacuation—to empty at once a distended bladder is to expose the patient to the danger of a vesical hemorrhage; desist as soon as the urine does not escape in a jet, but dribbles drop by drop. It is especially necessary that the strictest antiseptic precautions should be adopted. Antiseptics should likewise be introduced within the bladder; a 5-per-cent solution of boric acid constitutes the best preparation. As urine is withdrawn it should be replaced by a somewhat less quantity of the antiseptics, a process which may be repeated several times in succession until the contents of the bladder are removed.

Woolsey has considered: (1) The nature of the obstruction caused by prostatic hypertrophy; (2) the choice of operation for its relief, coming to the conclusion that the median lobe is not the

only factor, or even as important a one, in prostatic obstruction as is claimed by some. He considers that intravesical growth alone of the median and lateral lobes is not accountable for all the trouble in prostatic obstruction which it is sought to remove by operation. Obstruction by the median lobe is due almost entirely to intravesical growth; that brought about by the lateral lobes is due to lateral compression extravesically. Intravesical prostatic outgrowths may be a frequent or even the most frequent cause of vesical obstruction, but they are by no means the only cause.

The force required to squeeze the finger into the bladder past the enlarged lateral lobes after perineal cystotomy shows the obstructive force they may exert. The following conclusions are justified: (1) That intravesical prostatic growth is not always, though perhaps most often, the cause of obstruction requiring operative relief; (2) that in such cases the median portion plays a most important part by forming a valve in the majority of cases; (3) that the lateral lobes are often important factors, both intra- and extravesically, but especially in the latter manner. The choice of operation is made less free by the uncertainty of diagnosis, which is taken by many as an indication to do a suprapubic operation, which admits of digital and ocular examination, and consequently accurate diagnosis.

Perineal drainage is one way to avoid the difficulty, for which purpose Kummel dilates the prostatic urethra and uses a large catheter drain, after suturing the bladder; but, if one relies on suprapubic drainage, the plan used by Cameron seems to be the best. On account of the stinking urine he opened the bladder suprapubically, draining and treating the cystitis, and after six weeks prostatectomy was performed, when the patient was in a better general and local condition. As Belfield says, the addition of the boutonnière affords an access to the entire prostate, which may convert an utter failure into a complete success. By Belfield's method a "low level route" is sought for, and as the necessity for removing very large masses of the prostate is done away with, the mortality should be lowered. Besides the perineal opening and perineal drainage Belfield adds overstretching of the prostatic urethra, acknowledging the importance of the pressure from the lateral lobes.

Woolsey doubts the possibility of treatment or removal of the lateral lobes sufficiently through a suprapubic opening in most cases; even if the removal of the lateral lobes can be satisfactorily done through the suprapubic incision alone, the prostatectomy of whatever part can only be done, as McGill says, by leaving a raw

surface, unless it is possible to suture the wound, as Tuffier has done. Mischief would undoubtedly result from stagnant urine accumulating in this position, which it must do with suprapubic drainage, and also the risk of sepsis from exposure of a large absorbent surface is directly increased with the amount of prostatic overgrowth which is removed. Belfield's or Nichols's combined operation, and Cameron's plan before mentioned, appear to offer the best solution.

White on the other hand has recommended cure of the enlarged prostate by castration, on the following reasoning: Castration produces atrophic changes in the normal prostate. The second step is the effect of double castration upon pathological enlargements of the prostate. The evidence of the influence of castration upon senile enlargement of the prostate may be collected under three heads: First, tactile, as estimated by the finger; secondly, microscopical, as gathered from post-mortem specimens; thirdly, clinical, as deduced by the alleviation of the symptoms of obstruction and urinary distress. Out of one hundred and eleven cases collated by White, rapid atrophy of the prostate took place in 63.7 per cent. In some patients the diminution in size, as estimated by rectal examination, was most rapid and most marked; in others the reduction was slow. In all upon whom I have operated the reduction has been very gradual, and the prostate has never "disappeared." The prostatic lobes flatten, the interlobar groove or line of demarcation fills in, the bladder wall and the prostate blend, and their limiting boundaries become confused; the finger can be passed more readily over the extreme limit of the prostatic enlargement; the bulging into and the encroachment of the gland upon the rectum becomes less and less obvious; and the length to which the catheter has to be passed, before its eye reaches and taps the urine, diminishes. The prostate of a man dying eighteen days after double castration showed: (1) Proliferation of the columnar cells lining the glandular tubules; (2) acute fatty degeneration of the cells thus accumulated in the lumen of the tubules, with their disintegration and ultimate disappearance; (3) contraction of the tubules after a conversion of their naturally tall and slender columnar cells into low cubical or almost flattened small cells; (4) in the stroma, proliferation of connective tissue and unstriped muscle-fiber cells.

The following case is recorded by White to illustrate the changes in the clinical aspect of a prostatic case after castration. It is of course an extremely successful one.

The patient, aged sixty years, was admitted to the hospital

on November 16, 1894. He was much broken down by long-continued suffering, but was exceptionally intelligent for a hospital patient. He had begun to have symptoms of prostatic obstruction eighteen months previously. He had undergone various forms of internal treatment, in spite of which he was urinating hourly, and had used the catheter with increasing frequency for years. His distress had become so great that he had come for advice and for a rest in the hospital. He was examined by me, by several assistants, and by two members of the class. His prostate was estimated to be the size of a small orange. The finger could not reach the upper border. The lateral enlargement was very marked, the borders of the gland nearly touching the ischiatic rami. It was moderately firm, and slightly elastic upon pressure. A soft catheter went in with a little difficulty. Urine began to flow when the eye was about ten inches from the meatus. The amount of residual urine averaged six ounces. He was using a catheter from four to eight times daily, and urinating, or attempting to urinate, from twelve to twenty-five times, occasionally oftener, in the twenty-four hours. The urine contained blood and pus, but no casts; it was stinking, and loaded with mucus. Castration was advised, but refused. He was admitted to the ward, the bladder was irrigated daily, and the urine sterilized as far as possible by the administration of salol and boric acid. Recumbency, with the pelvis slightly elevated, was maintained. The diet was carefully regulated, milk being given chiefly. He got some relief from these measures, but there was no change in the residual urine. He was taught the proper use of the catheter, and instructed how to keep it sterile, and was discharged from the hospital. On December 5 he returned, and said he was so much worse that he was ready for the operation. This was performed on December 12. Ether was used. The time of the operation, including stitches, was three minutes. Improvement in urination became manifest in the first twenty-four hours after operation. In a week the patient emptied the bladder easily and painlessly. The urine had become clear, and the frequency of urination had decreased to five or six times daily. The residual urine had diminished to half a fluidounce, and on December 26 but one fluidrachm remained after urination. He was examined five days after the operation, and the prostate was found to be merely a flattened mass, the upper border easily reached, the lateral borders shading off insensibly, so that its limits in those directions were difficult to determine. The bulging into the rectum, previously so unmistakable, had disappeared. A catheter inserted eight and

a quarter inches drew a few drops of urine. The patient described to the class the change in the character of his urination, and said that he then felt as he did when he was a boy in the fields.

Fenwick in studying this operation says there are three questions to which the practitioner and patient will require as explicit answers as possible: Can bilateral castration be relied upon to cure the symptoms of every case of enlarged prostate? What is the mortality and remote effects of bilateral castration? Can the shrinkage in the prostate be brought about by any measures short of removing the entire testes—*e.g.*, by section of the vas or cord?

I. The cardinal symptom is the urinary obstruction, and our patient immediately demands if castration will relieve him of the necessity of passing his catheter. There are two elements in the necessity for the catheter—the prostatic obstruction and the muscular paresis. Let us take the latter first. Is it reasonable to expect a vesical muscle which has for long been crippled by severe cystitis, or for a vesical muscle which has for long been rendered inactive by the habitual use of the catheter, to recover itself and to resume work directly the prostatic obstruction is lessened by castration? It is not. It is equally, then, absurd to look upon castration as a panacea for all forms of prostatic obstruction and for all grades in the severity of the disease; if a man has been absolutely dependent on his catheter for over three years, if he has had no voluntary micturition for that period, his chances of radical cure are not so good as he who has been only partially dependent on his catheter, and for every year of complete catheter life the prospect of cure diminishes. This is virtually the view which is held by Sir Henry Thompson on prostatectomy.

Will the obstructing portion of the prostate atrophy in every case after castration? Our knowledge on this point is as yet imperfect. Griffiths pointed out in 1890: (1) That enlargement or hypertrophy of the prostate gland results from a growth of the gland tubules with their associated muscle, so as to form new gland substance closely resembling that of the normal gland. This constitutes the first or glandular stage. (2) After a variable time degenerative changes set in, which ultimately convert the new tissue into a mass of more or less dense fibrous connective tissue, containing only the atrophied remains of the glandular and muscular elements. This constitutes the second or fibrous stage. When this second or fibrous stage has been reached throughout the gland, as occasionally happens, castration would not, in Griffiths's opinion, cause any very marked diminution in size of the enlarged prostate, and therefore it must not be supposed that

dwindling of the enlarged gland will invariably result after castration.

There are other and subsidiary effects of castration on the symptoms of enlarged prostate which should not be lost sight of in the consideration of the all-absorbing question concerning the catheter. These are: (1) The diminution of the cystitis and cystopyelitis; (2) the alleviation of the pain of the inflamed prostate.

1. It is a remarkable fact that the pus in the urine invariably diminishes after castration. This result is partly due to the effect of the wound on each side of the pubes acting as a sort of strong counter-irritant; but this cannot be all, for even mild pyelitis improves. Should the amount of pus present before the operation be small, there is every likelihood of its being reduced to a minimum in successful cases, for but little residual urine is left by the renovated muscle, and edema and congestion of the base subsides. Moreover, a healthier flow of blood to the now active muscle brings with it a healthier tone to the mucous membrane. Old cases of chronic cystitis frequently ameliorate, but do not entirely cure. This is especially the case where the catheter is still a necessity after the operation. The presence of the inflamed prostate and congested base is a standing menace to the integrity of the kidneys, for at any minute an ascending septic invasion of these organs may take place; castration by shrinking the prostate certainly reduces this danger to the minimum.

2. Will the pain of the inflamed enlarged prostate subside? It is apparently easy in favorable cases to relieve the muscular pain or cramp due to straining, and also that pain which is the result of cystitis, but as to whether definite prostatic pain, the result of chronic prostatitis, which in some rare cases precedes the difficulties of micturition, can be relieved is uncertain.

II. The mortality and remote effects of castration are important; 18 per cent of the cases have been fatal, but there is every reason to believe that unsuitable and unfavorable cases have been chosen in the first wild rush which is so unreasonably made at every innovation. Uremic and even dying patients have been castrated. Thirteen out of the eighteen may, says White, be fairly excluded, and this would leave a mortality of 7 per cent. Double castration in patients with fair renal power and constitutional power ought to be an operation with small mortality.

"The remote results of the operation cannot yet be determined. The cases of death with precedent mental symptoms recorded and

described as 'mania,' 'acute mania,' 'childishness,' etc., are only such as every surgeon is familiar with in a certain proportion of cases of operation on aged persons whose mental equilibrium is easily disturbed, and can have no bearing on the question of later mental changes as a result of the castration. With greater accuracy we would probably classify the large majority of them as 'uremia,' and some of the remainder as 'traumatic delirium.' No mental or physical changes, except favorable ones, have been noted in a single one of all the successful cases, some of them now dating back several years. All the information we have on this subject, and it is far from scanty, leads to the belief that the removal of testicles from persons who have reached full adult life, and *a fortiori* from aged persons, has no effect whatever on the mental functions, or on the general physical characteristics."

III. Can these shrinkage changes be brought about by unilateral castration, or by mere section of the vas deferens? The evidence as to the value of unilateral castration in causing shrinkage of the entire prostate is contradictory. In two cases it has resulted in very marked improvement in the symptoms. Section of both vasa may be sufficient; the effect of merely dividing the vas is as yet not thoroughly worked out.

In one hundred and eleven cases collected by White there was noticed (*a*) return of expulsive power in 66 per cent of the cases; (*b*) reduction or disappearance of cystitis in 52 per cent; (*c*) reduction in the size of the prostate, as estimated per rectum, and by the depth to which the catheter has to penetrate before it draws water, in 87.2 per cent; (*d*) improvement in rectal expulsion; (*e*) reduction of pain; (*f*) a return to local conditions not far removed from normal (46.4 per cent); (*g*) certain dangers, such as melancholia and mania, have been noticed apparently as a result of the operation rather than of the disease.

Probably perineal prostatotomy and suprapubic prostatectomy will not be superseded by castration, but that the clearer judgment, unglamored opinion, and wider experience of the next decade will assign to each of the operative measures its distinctive indications and value.

Excision of the vas deferens for prostatic hypertrophy was experimentally tried by Farone on dogs. A bilateral excision of the vas deferens in dogs brings about the same atrophy of the prostate as castration; drawings of the microscopic appearance of prostates after castration and excision of the vas deferens respectively show that practically the same changes occur after both

operations. He recommends excision of the vas deferens for prostatic hypertrophy in preference to castration, as being the simpler operation, causing less mutilation and less mental shock to the patient, and giving equally good results.

Horwitz in a recent report on prostatectomy reaches the following conclusions: (1) With the exception of ligation of the internal iliac arteries, prostatectomy is the most dangerous of any operation that has been recommended for the relief of prostatic obstruction due to hypertrophy. (2) Suprapubic prostatectomy is the safest method, especially if combined with perineal drainage. (3) The best period to select to perform this operation is early, before the breakdown of catheter life and serious complications have supervened. (4) Either an atonied or contracted bladder of long standing, associated with chronic cystitis, attended by the formation of sacs, or pouches, is a contraindication for the operation. (5) A partial prostatectomy is indicated in those cases where a valve-like lobe exists, which interferes with urination, or where there is partial hypertrophy of one of the lobes. (6) A complete prostatectomy is indicated where a hypertrophy of the three lobes has taken place, especially if the condition is associated with tumor formation, projecting well back into the bladder, or has given rise to a stenosis of the prostatic urethra. (7) Perineal prostatectomy is best suited to those cases where the enlargement of the lateral lobes has a tendency to grow toward the rectum or obstruct the urethra. (8) When performing a perineal prostatectomy the semicircular incisions advocated by Pyle, or the transverse cut of Worholm, is the most satisfactory. (9) The removal of a portion of a small, hard, fibrous prostate gland by means of the perineal route is a very difficult operation. There is danger of not only extirpating the entire gland, but the prostatic urethra as well.

Thirty-three patients, between the ages of forty-nine and eighty-one years, were operated on by Horwitz by the "Bottini method." No death resulted. According to Fredenberg the most recent statistics show that good results can be looked for in 86.63 per cent of cases; failure in 7.6 per cent; mortality in 4.5 per cent. For convenience of description the cases that Horwitz treated may be divided into three groups:

First, comprising individuals who were commencing to suffer from the effects of prostatic obstruction, and who required the daily use of the catheter. These were between the ages of forty-nine and sixty-one. Heretofore this class of patients would have

been placed upon what is known as the "palliative method of treatment." Of fourteen who submitted to the operation before the secondary pathological changes that follow prostatic hypertrophy had taken place, all made prompt recovery; the period of convalescence varied from four to eighteen days. When operating on patients at the beginning of prostatic hypertrophy, the gland as a general rule being but slightly enlarged, a prostatic incision with a smaller blade should be employed than that which is used in more advanced cases. The Bottini operation performed early may be regarded as a radical method of treatment, resulting most favorably. It would seem as though the time had passed when the physician is satisfied to advise his patient to use the catheter daily, and patiently wait until the obstruction becomes so great and the complications so grave that some radical surgical procedure is necessary to give relief.

The second group of cases comprises those where the obstructive symptoms have existed for a lengthened time, where the bladder is beginning to be involved, and is in the process of undergoing pathological changes. Catheterism is daily requisite; the physique of the individual being still in good condition. This group is portrayed by eight operations; the individuals being between fifty-nine and sixty-three years of age; the period of convalescence including necessary after-treatment was from two weeks to four months. Of the number operated upon five were cured, two were improved, and one was benefited, so far as residual urine was concerned, which was owing to the bladder being atonied and paralyzed; the catheter was readily inserted, the prostatic spasm having been entirely relieved by the operation. A slight amount of cystitis continued with a persistence of residual urine, rendering the use of the catheter necessary.

To the third group belonged men more advanced in years, their ages ranging between sixty-five and eighty-one years, in whom prostatic hypertrophy had existed for a lengthened period, who had reached what is known as the "breakdown of catheter life," whose general health was below par, with atheromatous degeneration of the blood-vessels, and polyuria, together with damaged bladder and kidneys, and who had suffered from repeated attacks of retention of urine. A large amount of residual urine existed in each instance. All were in too poor a condition to withstand a capital operation, and before the introduction of Bottini's method would have had to rest satisfied with some palliative procedure.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

ANTITOXINS FOR MALARIA.

The wide range to which serum therapy is applicable is demonstrated in the admirable attempt which has recently been made by Dr. J. H. Ford, of the United States army, to provide a serum or antitoxin treatment for tertian malaria. The investigator has been working in the field for some time and has achieved certain results of more than ordinary significance, which he details in an article contributed to the *Medical Record*.

While as yet little has been discovered in the way of immunizing or curative serums for the treatment of diseases of protozoal origin, there is no good reason why this class of maladies should not be amenable to similar principles of prophylaxis as those prevailing in diseases of bacterial origin. Malaria, yellow fever, dengue, amebic dysentery, and trypanosomiasis should be hopeful subjects of investigation with this end in view, as with the possible exception of Adamkiewicz's cancroin no remedy based upon these principles has had more than cursory trial. Dr. Ford's experiments in malaria comprise the trial of serum injections and also of solutions of desiccated erythrocytes. His conclusions lead him to infer that erythrocytes containing malarial antitoxin will find their chief usefulness in injections given to confer immunity, and he thinks that a serum in larger quantities will be found for curative purposes. The author's charts give satisfactory assurance that so far as he has gone he has not been unsuccessful in aborting malarial paroxysms.

As the author says, the scope of his observations "is broader than is at first apparent. Though malaria is the chief bar to the commercial development of our Southern States, Italy, Africa, and other subtropical and tropical regions generally, the dis-

covery of a specific antitoxin for one type of the disease is of less importance *per se* than is the principle whose existence that discovery implies. This principle is the fact that other human diseases of protozoal origin may, like those caused by some bacteria, prove amenable to antitoxin therapy. To practitioners resident in cool climates, where malaria is neither prevalent nor as a rule severe, observations on its specific treatment must prove of academic rather than immediate practical value, but their experience with other less tractable infections, caused or believed to be caused by sporozoa, gives at least ulterior importance to the principle here enunciated. It is the basis of a natural working hypothesis which there is reason to hope will contribute greatly to the successful treatment of diseases of this class."

EDITORIAL NOTES.

To Prevent Self-advertising.

The various means employed by certain physicians to advertise themselves in the reading notices of the daily papers have often been commented on and numbers of remedies offered. Recently the Orleans Parish Medical Society passed the following resolution: "Copies of all articles appearing in the daily press of this city relating to members in this society shall be placed by the secretary in a scrap-book which shall be kept on the president's desk for the inspection of members. The book shall be indexed. Any member whose name shall appear therein will have the privilege of attaching thereto a written explanation."

This seems to be an excellent idea, for while a physician may now and then find his name in the daily papers, when it occurs with such regularity as we sometimes see it, it will be pretty hard to explain that it got there without any help from himself.

Books a Medium of Tuberculous Infection.

During the past year a number of clerks employed in a Berlin library contracted tuberculosis. This led to having an examination made of a number of books in the library. Thirty-seven volumes of popular fiction which had been in use from three to six years, and which showed signs of much wear, were selected. Steeping the corners of the leaves and the most soiled parts of

the paper for twenty-four hours in normal salt solution and rubbing the bindings with the same, the washings were centrifuged, but they failed on examination to reveal the bacillus of tuberculosis. Fifty guinea-pigs were then injected with the water under proper precautions, and when at the end of three and a half months the forty-three surviving were killed, fifteen, or 35 per cent, were found to have tubercle in various organs. Similar experiments with sixty other volumes that had been for from six months to two years only in use, but being of a different class of literature were in less request and were in a more clean condition, gave when similarly treated wholly negative results. This matter of dirty library books is one that health boards cannot afford to neglect, for doubtless many a case of tuberculosis might be prevented by the timely disinfection of such books by the use of formaldehyde.

An Effort to Reinstate the Army Canteen.

The army canteen or post exchange, which was abolished three years ago against the advice of the majority of the officers in the army, by the persistent but misguided efforts of the Woman's Christian Temperance Union, will probably be reëstablished if the efforts of the Woman's Army and Navy League are successful. At a recent meeting of this League in Washington, D. C., a resolution was adopted declaring that as the canteen was abolished under a misconception of facts, and that a three-years' test has proved the law a failure, it should be restored to the place it held prior to 1901. It is to be hoped that these sensible women will have influence enough with the members of Congress to restore to the soldier his club.

A Practitioner of Medicine at Ninety.

That the practice of medicine is conducive to long life is exemplified by an Irish physician, who at the age of ninety is still in active work. Dr. Woods, of Birr, Ireland, at this great age still continues his daily rounds, visiting his patients on a bicycle. When the local board of District Guardians decided to grant him a full superannuation as an allowance the aged physician strenuously objected, claiming that he was still able and willing to earn his salary.

ITEMS AND NOTES.

An outbreak of smallpox is reported from Morris Run, Pa., where there are said to be over 150 cases of the disease.

The heirs of Professor Virchow have given $12,500 to be applied toward the prevention of infant mortality in Berlin.

The corner-stone of the new building for the Michigan College of Medicine and Surgery, Detroit, was laid December 13.

Prof. Arnold Heller, director of the Institute of Morbid Anatomy at Kiel, has been elected rector magnificus of that university.

It is stated that the state of Sinaloa in northwestern Mexico, bordering on the Gulf of California, is being ravaged by famine and fever.

Dr. K. A. Hasselbach, privat-docent of physiology in the University of Copenhagen, has been appointed head of the laboratory of the Finsen Institute in that city.

The Danish Parliament has, on the proposition of the Cultus Minister, unanimously voted a pension of 3600 kroner a year to the widow of the late Professor Finsen.

It is announced that Dr. Glaetano Cocchi, who was sent by the Italian government to study malaria in South America, has died of yellow fever at Merida, Mexico.

A report is current that Dr. William H. Welsh, professor of pathology at Johns Hopkins, will succeed Professor Osler as professor of medicine on the latter's departure for Oxford, England.

An English newspaper says Andrew Carnegie has purchased or is about to purchase for $3,750,000 Lea Park, the late Whitaker Wright's estate in Surrey, with the object of establishing a national convalescent home.

Dr. De Castro, physician at the court of the Emperor Menelik, has presented to the Italian Minister for Foreign Affairs a report in which he states that the practice of vaccination has recently been extensively adopted in Abyssinia.

The American Academy of Ophthalmology and Otolaryngology will hold its next meeting in Buffalo during the days of Aug. 23, 24, and 25, 1905. President, H. W. Loeb, St. Louis, Mo.; secretary, George F. Suker, Akron, Ohio.

The New York Society of Medical Jurisprudence recently elected Dr. Carl Beck its president for 1905. He has also been elected corresponding member of the Medical Society of Munich, an honor never before conferred upon an American.

The medical practitioners of New Jersey are endeavoring to form a national organization of automobilists in the United States. A meeting is to be held at Camden this month, when the Physicians' Automobile Club of New Jersey will hold its annual meeting.

Four of the trained nurses who have recently returned from Japan, where they were serving in the base hospital at Hiroshima under the direction of Dr. Anita Newcomb McGee, have volunteered to go to Panama to nurse in the hospitals of the Canal Commission.

Juan Chaves, aged 134 years, is dead in Roswell, N. M. He was the oldest Mexican in New Mexico, and was born in Pecos Valley when this was a portion of Mexico. He retained his faculties to the end, and frequently related incidents occurring in the eighteenth century.

President Palma has definitely announced that he is not willing to undertake the street cleaning of the eastern cities of Cuba without the authority of Congress and without funds for that purpose, but he is urging the matter on the leaders of Congress, and early action is expected.

News from Lima, Peru, states that while the prevalence of bubonic plague has not been officially declared in Chile, it is stated that there are cases that the Chilean government daily conceals in order that steamers may not omit touching at ports at which there are no sanitary regulations.

Japan's scientific husbandry is the real secret of her success, says a writer in the *Booklover's Magazine*. She has only 19,000 acres of arable land, and from this little lot, which, Mr. Balce says, an automobilist could run around, if it was all together, in eleven hours, she feeds her 47,000,000.

FOUR charitable institutions are remembered in the will of Andrew E. Leicht, of Chicago. The instrument has been filed in the Probate Court, and the following bequests are included in the provisions: German Old People's Home at Altenheim, $1000; Uhlich's Orphan Asylum, $1000; German Hospital, $1000; German Society, $1000.

PHOTOGRAPHING the background of the eye has been successfully accomplished by Dr. W. Thorner, of the Royal Charity Hospital, London. His apparatus is a material improvement on the ophthalmoscope. The latter only admits of viewing the background of the eye. All previous attempts to photograph the interior of the background had remained fruitless owing to the peculiar construction of the eye, which rendered it difficult to light up the interior to such an extent as to enable one to take a photograph of it.

A POW-WOW DOCTOR has been discovered in Philadelphia during an investigation by Coroner Dugan into the cause of the death of a child aged about four months. The treatment consisted of rubbing the child with the dirt side of a piece of sod, and subsequently with the grass side. The child's clothes were then to be shaken out of the window and never used again, and the child was to be kept out-of-doors all day. The "doctor" is a blacksmith by trade, and alleges that he was taught by his mother how to cure disease. There is no law in Pennsylvania which will reach the case.

AMBITIOUS young practitioners will doubtless hail the suggestion of a new specialty in medicine as eagerly as Alexander would have welcomed the discovery of a new world to conquer. Already the human body has been "pegged out" into so many "claims" that it might have been deemed impossible to find the smallest piece of unappropriated territory. Nevertheless a novel field of enterprise has recently been indicated by no less an authority than the official organ of the French Republic. The *Journal Officiel* of November 2, 1904, announced that Dr. Augagneur, professor of external pathology in the mixed faculty of medicine and pharmacy at Lyons, had been, at his own request, transferred to the chair of "subcutaneous diseases" in the same school. The subcutaneous region seems to offer possibilities to pioneers in specialism. To avoid complications, however, a strict definition of the term "subcutaneous diseases" will be necessary, as it might be held to include affections of all parts under the skin.

THE Nobel prizes for 1904 were duly awarded on the anniversary of the birthday of the founder of the prizes, December 10. The prize in medicine was bestowed on Prof. J. P. Pawlow, of St. Petersburg, whose recent research on the physiology of the digestive processes has revolutionized many of our conceptions and established a scientific basis for empirical experiences and observation. An institute was erected at St. Petersburg exclusively for his experimental work, and it is the Mecca to which many a scientific pilgrimage has been made during the last few years. The twenty-fifth anniversary of his entering on his professional career was celebrated last February, when a fund was endowed in his name for a prize for research in physiology. The prize for chemistry was given to Sir William Ramsay, professor of chemistry at London. The prize for literature was divided between a French poet and a Spanish dramatist. The peace prize was conferred on the Institute of International Law, and the prize for physics on Lord Rayleigh, professor of natural philosophy at the Royal Institute.

A NEW YORK exchange states that the oleomargarin interests have been unsuccessful in emasculating the Grout law, designed to prevent oleo from masquerading as pure butter, despite the proverb that a skilful attorney can drive a coach and four through any statute. Justice Brewer of the United States Supreme Court recently handed down a decision approving the decision of the United States District Court, under which a Chicago oleomargarin dealer was convicted of violating the vital section of the law, which imposes a tax of ten cents a pound on oleomargarin "colored artificially." In this instance the coloring substance was palm oil. The only effect of the palm oil was to color a product composed of other ingredients. The court held that one of the objects of the legislation was to prevent the sale of oleomargarin as butter, and that when any substance introduced in oleomargarin serves only the function of coloring the mass so as to cause it to look like butter "of any shade of yellow" it is an artificial coloration. The effect of the decision is to proscribe the use of any substance in oleomargarin, however harmless to health, which gives the product the color of butter. The regulation of the sale of oleomargarin through the constitutional power of taxation was the only way by which the product could be reached by Federal legislation, and the phraseology of the law seems to be sufficiently explicit to defeat the most plausible attempts to evade it.

NEW PUBLICATIONS.

THE UTERO-OVARIAN ARTERY.

The valuable work done by the author in the domain of special anatomy is well known to the whole American medical profession, from his numerous contributions to journalism. The present work deals with the utero-ovarian artery, and there is presented for the first time a description of the genital vascular circle, the important arterial cervical loop which is so frequently ligated in surgical intervention on the genital tract. The bearing of Dr. Robinson's investigation on all gynecological operative work is important and cannot be ignored.

Arteria Uterina Ovarica. The Utero-ovarian Artery or the Genital Vascular Circle, Anatomy and Physiology, with their application in Diagnosis and Surgical Intervention. By Byron Robinson, B.S., M.D. Price $1.00. E. H. Colegrove, Chicago.

PRACTICAL DIETETICS.

The author is a well-known worker in gastrointestinal diseases, and has produced a valuable work on dietetics, extremely practical in character and clinical in spirit. The reader will find much that is new to him, and Dr. Benedict's pages will carry with them the conviction that their author is sound in his views of the physiology of nutrition, and not fantastic or extravagant in the application of his principles. The work will doubtless meet with the general approval it so well deserves.

Practical Dietetics. Diet in Health and Disease. By A. L. Benedict, Buffalo, New York, Member American Gastro-Enterological Association, Medical Society State of New York, etc. 12mo, 400 pages. Green Buckram, Gilt Side Title and Top. Price $1.50 net. Chicago: G. P. Engelhard & Company.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Brain Tumor and Trauma.

E. W. Holmes (*American Medicine,* Dec. 10, 1904) says that the pathology of a traumatic brain growth is not different from that of a tumor elsewhere. The upright posture renders the cranium more liable to injury, and in severe traumatism the diffusion of the force increases the danger to the brain.

The direct influence of the blow is shown by the tumor appearing at the seat of injury, the cortex and the cerebellum therefore being the parts of the encephalon most vulnerable and most liable to tumor, but by reason of concussion and contrecoup deeper parts and parts at a distance may be affected, as proved by the clinical evidence of tumor.

The fact that the brain is so well protected from infection from without, so long as its outworks, the scalp, the skull, and the meninges, are intact, militates against the bacterial origin of tumor, and favors the belief in the cellular, nutritional, and formative element as causatives of new growths.

We find the same variety of tumor here as elsewhere, though from traumatic causes (excepting cysts) sarcoma and gumma would seem to bear the greater proportion.

The time of the appearance is without limit, in brevity or in duration.

A completely kept history of the individual is of the greatest importance in enabling us to make a diagnosis at the very onset of the disease, or by exclusion in the more neutral areas of the brain.

Treatment of Epithelioma.

At the recent meeting of the International Congress on Dermatology, Dr. Schlesinger (*Lancet,* Nov. 19, 1904) said that the only efficient treatment of epithelioma is by operation. Undoubtedly there are cancroids which might be successfully treated by means of radium and by means of light as used by Professor Finsen, but these are only very superficial cases. In the great majority of the apparently cured cases there is cicatrization on the surface, whilst the cancerous process spreads to the deeper

layers of the tissue. Surgical treatment might even then be successful although the most favorable time for operation has passed, but in many cases the operation comes too late. In the Berlin Surgical Clinic three such cases had been observed during the last few weeks. Superficial epithelioma might become cicatrized under radiotherapy, but this is of little importance, as a similar result might be obtained by cauterization. Radiotherapy has not in any case been found superior to surgical treatment. A striking experiment illustrating this has been performed by Professor Perthes, who exposed the ears of a rabbit to the radium rays and found that the nearest layers showed extensive ulceration, which decreased in proportion to the distance from the radium salt. The recommendation of phototherapy is based on the supposition that the results of surgical operations are bad, but statistics prove the contrary. Of 171 patients operated on for epithelioma, 106 were cured and alive at least three years after operation; 16 died after three years and 25 died within three years after the operation; 3 are still alive, but have relapsed. The results, though favorable, will certainly become better when the operations are performed at an earlier date. In cases which are already unfit for operation phototherapy might be useful to relieve the pains of the patients and to produce a superficial cicatrization of the gangrenous ulcerations; in every other instance, however, operation is the sovereign remedy.

The Treatment of Diffuse Suppurative Peritonitis Following Appendicitis.

Dudley P. Allen (*Columbia Medical Journal,* September, 1904) discusses the method of treatment in diffuse suppurative peritonitis following appendicitis. He strongly advocates the following line of procedure: A lateral incision is made low down in the right iliac fossa. An opening in this situation gives direct access to the cæcum, facilitates thorough washing of the peritoneal cavity, and forms subsequent drainage. With the patient turned on his right side the peritoneal cavity is thoroughly irrigated with normal salt solution or sterile water, by means of an irrigation apparatus having a funnel held high above the patient, and a large rubber tube leading from this to a nozzle twelve or fourteen inches long which can be carried to every part of the abdomen. The operator's hand prevents the escape of intestines, and at the same time, by keeping the incision open and the intestines back from the tube, allows of the free escape of the irrigation solution. Shock,

so frequently met with in returning to the abdomen intestines which have escaped during the process of cleansing the abdominal cavity, should be avoided. Intestines distended by gas have a great tendency to escape from the abdominal incision, especially if this be in the middle line. With the incision in the right iliac region and the patient turned on his right side this tendency is much decreased. When the washing has been thoroughly accomplished two large glass drainage-tubes are inserted into the pelvis and one into the right flank, wicks being placed in these to aid drainage. Gauze is now lightly packed in the abdominal incision around the tubes. The patient is returned to bed and kept well to his right side to facilitate drainage.

Gastric lavage may be employed to empty the alimentary tract and quiet peristalsis.

Method of Operating Hemorrhoids.

Landstrom (*Centralb. f. Chir.*, No. 47) from his experience in the Krankenhaus of Stockholm recommends the removal of hemorrhoids by means of clamps. The sphincter of the anesthetized patient is dilated, the clamp applied to the base of the nodule, and it is cut off, no hemorrhage resulting. A drainage-tube covered with iodoform gauze is inserted, and removed on the second day. The wounds usually heal in two weeks.

MEDICINE.

The Physical Signs and the Sputum of Incipient Pulmonary Tuberculosis.

Robert N. Wilson (*St. Louis Medical and Surgical Journal*, December, 1904) says that only repeated and systematic examinations of the sputum constitute a careful and conclusive study. A failure to find tubercle bacilli in one specimen has practically no significance. Only fresh sputum is likely to yield bacilli when they occur in small numbers. His experience in this regard is contrary to the usual statement, but is based on many cases and special study of the point in question. Bacilli, though actively at work in the pulmonary tissues, may be found in no other portion of the sputum than the so-called "caseous bodies," and may not be found in these. Tubercle bacilli may be only intermittently present in the sputum of a tuberculous patient. The search, often otherwise unsuccessful, may be rewarded after centrifugalizing

the sputum and examining the precipitated particles. If no bacilli can be detected by the ordinary methods inoculation experiments may prove their presence. Inoculation experiments must be repeated more than once before the absence of bacilli can be assumed. Both staining methods and inoculation experiments may be carried out and still no bacilli be found; yet the patient may be the subject of incipient phthisis, and later demonstrate this fact by progressing into the advanced stages of the disease. Such sputum may also infect laboratory animals with tuberculosis.

Probably in rare instances tubercle bacilli are found in small numbers by ordinary staining methods in the sputum of normal subjects in ordinary daily life. This has never occurred in the writer's experience, and must be an exceedingly infrequent happening. The presence of a few tubercle bacilli in the sputum must be looked upon as confirmatory of suspicious or definite physical signs. In the total absence of characteristic physical signs, large numbers of bacilli in the sputum probably point to a purely bronchial form of the disease. Only in the complete absence of physical and subjective clinical signs should the occurrence of a few tubercle bacilli in the sputum be minimized. As this coincidence of conditions probably never suggests an examination of the sputum, the circumstance will probably never arise, and probably never has arisen, in which it will be warrantable to set aside the discovery of the bacilli as having no bearing on the case. Typical as well as branched and other atypical forms of the tubercle bacillus may be found in the sputum of incipient phthisis. The most common atypical forms are short, thin rods, non-beaded, but staining characteristically, and both acid- and alcohol-fast. Tubercle bacilli should not be looked upon as a customary finding in incipient phthisis; when present they practically determine the diagnosis.

Psychoses of Thyroid Origin.

D. Latarjet (*British Medical Journal,* Nov. 26, 1904) believes that the neuroses observed in women, especially at the menstrual periods and at the menopause, are often dependent upon the state of the thyroid gland. He publishes the case of a woman whose mental condition was due, as proved by the result of surgical treatment, to thyroid disturbance. His patient was fifty-one years of age, looked in good health, had been married at seventeen, and had two healthy daughters. When thirty-seven years old she noticed a small tumor above the sternum, which increased for a short time, and afterward remained stationary. With the appear-

ance of the goitre the woman underwent a change of disposition; she became stouter, more active, and fonder of gaiety. This state persisted until she was fifty years of age, when her husband died. After a period of depression the exuberance became exaggerated. The patient could not bear solitude; she wandered about without object, and was in a condition of constant agitation at the menstrual periods; her head felt empty, she became emotional, and she lost both memory and the power of reasoning. There was no sign of Basedow's disease, of hysterical stigma, of epilepsy, or of definite mental degeneration. An incision of 5 to 6 centimeters was made in the middle line of the neck, and two very small adenomata were easily enucleated. These seemed to consist of young thyroid tissue. The wound was left open; the serous discharge was very profuse at first, and persisted to some extent until the completion of cicatrization. The patient was observed for two months after the operation, which was followed by a complete mental transformation. The agitation disappeared, the sleep was sound, and the psychical equilibrium was perfectly restored.

Latarjet thinks that to treat cases such as this with bromides and the allied drugs is to waste time and to mask the symptoms upon which a satisfactory diagnosis depends. He lays stress upon the necessity of allowing the operation wound to granulate without sutures, believing that the drainage of thyroid serum is equally as important as the removal of abnormal tissues from the gland. He compares the effect of simple incision over the thyroid to that of laparotomy for tuberculous peritonitis, and insists that examination of the thyroid should be a routine part of the examination of cases of mental aberration, and that surgical interference is just as urgent in the psychical trouble of thyroid origin as it is for such physical symptoms as dyspnea or dysphagia.

Onanism in Infants and Young Children.

V. Trischitt (*Archives of Pediatrics,* November, 1904) reports the case of a child, aged four years, who belonged to a neuropathic family and who exhibited a marked tendency to masturbation. No worms were found about the anus, but a vulvovaginitis was present. The latter was treated by appropriate local methods, and internally bromides and small doses of opium were given four times daily. The local inflammation disappeared, and the child ceased to masturbate within two weeks. The author urges the recognition that in small children masturbation should not be treated as a defect of morality, but as a disease depending upon

a deficiency in nutrition of the body. In this case there was not true onanism, but a pseudo-onanism, because true onanism is a symptom of a cerebral neurosis, and does not exist in young children. At this age masturbation does not have the same significance as in puberty, for in small children masturbation is nothing but a tic or a bad habit, just as sucking the thumb is in infancy.

There is no question that in very young children masturbation is quite frequent, because it is accompanied by a distinct pleasurable sensation which the child seeks mechanically to reproduce. Some nursemaids even resort to teaching children to masturbate in order to prevent them from crying. In young children the prevention and treatment of masturbation depend largely upon the preservation of the genitals and the anal region in a state of scrupulous cleanliness, and in attention to constipation, urticaria, and other sources of irritation. The child should be watched discreetly; it should be occupied with something else, and the instinctive act to which it is inclined should be gently prevented. During the night the child should wear clothing that covers the genitals well, but does not irritate the parts. At times the hands may be tied, and in nervous children bromides and opiates may prove of value.

Arterial Tension in Typhoid Fever.

C. Dancourt (*British Medical Journal,* Nov. 5, 1904) gives the results of a study of 41 cases of typhoid fever in children. Nothing is known of the arterial tension during the prodromal stage, but at the beginning of the fever it is lowered, being on the average 8.7 instead of 13 or 14. It then gradually rises without much oscillation, and during the second and third weeks measures 9.2. This is slightly higher than the average for the whole disease. During defervescence it always falls, to rise again to normal during convalescence. In children the tension is lowered both relatively and absolutely more than in adults. Although hypotension is the rule, hypertension is sometimes found, and is at least as common as very low hypotension. A slight attack without febrile symptoms generally passes through its course with slightly raised tension. The tension renders no aid to the diagnosis or prognosis of the general clinical form of the fever. On the other hand, it is of considerable use in the discovery of complications. Increased tension is found the day before, or even several days

before, a hemorrhage. It very frequently accompanies congestion, especially of the lungs, and may be the only sign to put the physician upon his guard. Pericarditis causes an augmentation. Myocarditis does not necessarily lead to lowering of the tension; on the contrary, the opposite is often seen. It is necessary to auscultate regularly and keep a record of the pulse-rate, as it is rather the frequency than the tension which is then important. The tension is not influenced by alimentary trouble, by the formation of an abscess, an infectious disease, nor by aortic lesions. Arterial tension is thus able to reveal the onset of complications, and taken together with the frequency of the pulse, the temperature chart, and the general aspect, it is of considerable use in prognosis. It is, too, a useful indication for therapeutics. The author uses spirits of nitrous ether to reduce tension, but to raise it employs cardiac tonics rather than vasoconstrictors.

The Pathology of Oral Sepsis.

Kenneth W. Goadby (*British Medical Journal,* Nov. 19, 1904) says that a certain degree of virulence may be possessed by an organism living an apparently saprophytic existence in the mouth. Inflammatory conditions have the effect of increasing the number of species as well as the total number of bacteria present. Some sort of selection apparently takes place, but whether due to symbiosis or not it is at present impossible to say. Mouth bacteria do at times gain access to the general blood stream. Finally, the potentiality for disease of oral sepsis receives considerable support from even a preliminary survey of its bacteriology, perhaps pointing to its operation in even a wider rôle than is at present credited or admitted.

The Bacteriology of Empyema in Children.

D. Bytheel (*Journal of Pathology and Bacteriology,* July, 1904) finds that empyema in children is generally due to a process of direct invasion on the part of the microörganisms from a patch of lobular pneumonia. The causative agent in a very large proportion of cases is the pneumococcus, which is most frequently present in a state of purity. Apart from these cases, and except where the streptococcus is present, the infection is generally mixed. A seropurulent effusion is not inconsistent with the exclusive presence of pneumococci, nor a thick viscid pus with that of streptococci. The unmixed pneumococcic cases are, on the whole, the

mildest, but the pneumococcus may, by dissemination, give rise to very dangerous complications; and on the other hand, a streptococcal infection may result in very mild symptoms. Bacteriological examination affords the following information as regards the prognosis: (1) If the pus contains but a small number of poorly stained microörganisms, and gives feeble cultures, the prognosis is generally good; (2) if the microörganisms are abundant and well stained, and the cultures vigorous, the prognosis is not necessarily bad, especially when there is a large amount of phagocytosis; if, however, the phagocytosis is poor or absent, the prognosis is almost always bad; (3) vigorous cultures are not in themselves a sign of pathogenic activity.

THERAPEUTICS.

Treatment of Infantile Syphilis.

George F. Steel (*Lancet,* Nov. 19, 1904) says that in the treatment of infantile syphilis there is little choice of drugs; the only question is in what form should mercury be administered, in what dose, and for how long. There is no form more generally useful for infants than gray powder. Combined with aromatic chalk powder a dose of half a grain can usually be given three times a day without causing diarrhea; but if there is any looseness of the bowels Dover's powder may be given with the gray powder in doses of one-eighth of a grain for infants over three months of age, and one-fourth of a grain at the age of six months. He has also used the liquor hydrargyri perchloridi, but thinks it is more liable to cause diarrhea; an infant a month old can take three minims three times a day. Inunction of unguentum hydrargyri may be used either alone, or in severe cases in addition to the internal administration; a piece the size of an average green pea—a rough measurement of 15 grains—is gently rubbed over the abdomen or the inside of the thigh or arm at night, and left covered over with a flannel bandage until the following morning, when it is washed off; this is to be repeated every night unless the skin shows signs of irritation, as it occasionally does. By one or the other of these means, even in the most severe cases, an infant can rapidly be brought under the influence of mercury, and there is no condition in which there is anything to commend the intramuscular or intravenous injections of iodine or mercury which have recently been advocated for infantile syphilis. Such methods,

however suitable they may be for adults, are in the author's opinion wholly unsuitable for the treatment of the disease in children; they involve an absolutely unnecessary infliction of pain and an equally unnecessary risk of troublesome inflammation. The iodides are by no means useless in the treatment of infantile syphilis; with epiphysitis and gummata, which may occur very early in infancy, the iodides should be used internally in addition to mercury, and in other manifestations of syphilis in infancy the iodides may be used sometimes with advantage.

The duration of mercurial treatment is a point of much importance. The disappearance of symptoms is no indication for discontinuing treatment; there are cases in which under mercurial treatment all symptoms disappear in three or four weeks, but if mercury be discontinued so soon, symptoms will almost certainly recur. Treatment with mercury should be continued for at least six months after the disappearance of active symptoms of syphilis, and where symptoms tend to recur when treatment is omitted it may be necessary to continue it for a year or more.

The Utilization of Fats in Tuberculous Patients.

At a recent meeting of the Paris Academy of Medicine, Dr. Laufer (*British Medical Journal,* Nov. 19, 1904) read a paper on the value of fats to tuberculous patients. The most constant and distinct influence of fats on them, as on normal persons, consists in retaining and in economizing nitrogenous matters. Dr. Laufer had found that when tuberculous patients were given fats in various forms and in increasing quantities, the curve of the total elimination of nitrogen (in urine and feces) at first fell, and then remained horizontal. Thus beyond a certain amount the fat was not utilized and so was useless, at least so far as concerned its action in sparing albuminoids. Fat might still in a certain measure be deposited as such in the tissues. Taking this fact into account, the author gave to certain tuberculous patients fats in large quantities (150 to 200 grammes), including the fat contained in the food itself, and additional fat in the form of cod-liver oil, butter, olive oil; to other tuberculous patients he gave fat in moderate quantities only (100 to 150 grammes), and he had studied the curve of the weights in those two series of patients during a period of six or eight months. In the first series with large quantities of fat the curve of the weight rose rapidly, then remained stationary, and then fell sometimes lower than the initial weight, and this

either from digestive disturbance or because the patients lost their appetites, or else from complete default in fat utilization, the fats passing out in the feces unchanged. In the second series of cases with moderate amounts of fat the curve of weight rose slowly but with a constant and progressive rise, so that the gain in weight was sure. The amount of 100 to 150 grammes seemed to be the maximum really useful, and this should be kept in mind when drawing up diet tables for tuberculous patients.

Treatment of Malignant Disease of the Breast.

Our knowledge of the etiology and pathology of malignant disease is very limited, says C. L. Leonard (*St. Louis Medical Review,* Dec. 10, 1904). The natural benignity of atrophic scirrhus is apparently explained by certain pathologic changes that show an attempt by nature to retard the progress of malignant disease.

The results produced by Roentgen treatment are practically identical with this natural process, but are more complete, showing a power over the malignant cells themselves.

Conservative surgery tends toward a non-operative treatment of hard cancers (atrophic scirrhus), and their treatment by Roentgen rays.

Early radical removal by surgical operation is indicated in all other primary growths and operable recurrences, to be followed by early Roentgen treatment.

Postoperative Roentgen treatment has been shown to have great value. It should be employed to supplement all operations Immediately after operation it gives the patient the advantage of one method supplementing the other.

The beneficial results of this as with all other therapeutic measures are proportionate to the knowledge and skill of the person employing them. These factors must be taken into consideration in judging the results of any method of treatment.

Treatment of Ureteral Cysts.

Byron Robinson (*American Journal of Surgery and Gynecology,* December, 1904) says that since the etiology of ureteral cysts is unknown and the diagnosis in most cases almost insurmountable, treatment at present is unsatisfactory. Mechanical treatment would appear to be the only rational method. The renal

cortex should be incised in the exsanguinated renal zone (Hyrtl's zone), and an attempt made to rupture the cysts in the ureter (calyces, pelvis, and ureter proper) by instrumentation and manipulation. Ureteral sounds of increasing dimensions should be repeatedly passed distalward in the ureter in order to rupture as many cysts as possible. It does not appear that rupture of ureteral cysts is damaging to the patient, and besides, the cyst would probably not recur. Massage should be employed, and since by a lumbar incision the ureter can be exposed from kidney to pelvic brim directly to inspection and manipulation without ligating vessels much benefit could be derived by this plan, especially if the cysts were large and thin-walled—easily ruptured.

In manipulating a ureter afflicted with ureteritis cystica, precaution must be exercised as the ureteral wall is generally dilated, attenuated, and consequently easily ruptured, with limited chances to reunite by suture.

Serum Treatment of Pneumonia.

J. M. Anders (*Journal of the American Medical Association,* Dec. 10, 1904) says that a sufficiently extensive trial of the antipneumococcus sera has been made to determine with a reasonable degree of accuracy their efficiency, and the results as a whole fail to carry conviction. An efficient serum, or one that will cut short the pneumonic process, is yet to be produced, although according to some clinicians the sera available at present have a restricted field of usefulness. Recent observers have employed the serum in massive doses from the commencement of the disease without gratifying results. The practical results of the use of antipneumococcus serum, as shown by the very slight reduction in the mortality percentage, do not warrant its general introduction. The sera thus far found possess no antitoxic qualities, and their supposed anti-infectious properties have not been proven. Further investigation into the subject with a view to discovering an efficacious serum is to be strongly advised and encouraged.

Archovin, a New Urinary Antiseptic.

The November issue of the *Medical Review of Reviews* contains an account of a new drug which is believed to be of distinct value as a urinary antiseptic, gonococcicide, and gonorrheal prophylactic. Chemically it is composed of diphenylamin and thymol-benzoic acid. It is non-toxic, insoluble in water, but readily

soluble in alcohol, ether, chloroform, and oils. Administered internally he has found it capable of rendering the urine sterile; it is easily absorbed and does not irritate the stomach. The dose is 0.25 gramme administered four times a day. Locally it has been used in the urethra, in cases of gonorrhea, in the form of soluble bougies composed of archovin 0.05 gramme, coca butter 1.0 gramme, with excellent results.

Injections of Iodipin in Gonorrheal Rheumatism.

A. Schuster (*British Medical Journal*, Nov. 19, 1904) has tried injections of iodipin in doses of 10 to 20 grammes of a 20-per-cent solution. Iodipin is said to act more slowly than iodides and to avoid the effects of iodism. The author quotes the case of a young man with arthritis of the shoulders, knees, ankles, and spine, who for three years had been treated with drugs and baths. Injections of iodipin were made in the region of the affected parts, but not into the joints. Ten grammes was injected every other day, and in four months the cure was complete, except for some stiffness of the neck.

Treatment of Diabetes.

Renzi (*Berliner klin. Woch.*, No. 46) is skeptical as to the treatment of this disease with drugs, with the exception of sodium bicarbonate. The patient should be allowed moderate diet, and he believes in a plentiful ingestion of green vegetables. The diabetic is more tolerant to the carbohydrates found in green vegetables and fruits than those found in other articles of diet. The author considers the vegetable cure to be a radical one, and strongly advocates this method of treatment owing to his success in a large number of cases.

Intrapulmonary Injections in Phthisis.

Gressner (*Centralblatt f. Chir.*, No. 16) treated pulmonary tuberculosis by means of injecting a 10-per-cent iodoform-glycerin emulsion into the affected part of the lung. The injections were made through the back about two inches from the spinal column, using about 5 grammes of the emulsion every two weeks. He found this treatment to have a beneficial influence on some of the subjective symptoms.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

The Relation Between Systemic Disorders and Skin Diseases.

James MacFarlane Winfield (*Brooklyn Medical Journal*, December, 1904) says the skin is the great index of the body; upon it is faithfully portrayed the health or disease of the whole economy; any irregularity or disorder of the nervous system, the intestinal tract, or the pelvic organs is sure to be made manifest upon the skin in some form of blemish or disease.

The relationship between the skin and the general system is markedly shown by the eruptions of the acute eruptive fevers, like smallpox or scarlet fever. Here the cutaneous manifestation is the visible evidence of the workings of the systemic toxemia; we also see the same thing in the erythemas and rashes of erysipelas, diphtheria, typhoid fever, and syphilis. In these diseases the skin eruption is produced by the specific organisms or their toxins circulating in the blood. In the ordinary cutaneous affections the systemic diseases or organic disorders produce their effects in a variety of ways reflexly through the nervous system, by alterations in the texture of the skin or by functional and structural cutaneous changes.

The intimate relation between the stomach and the cutaneous coverings of the face is demonstrated by the flushing often observed during the process of digestion.

If the stomach becomes inflamed (acute indigestion) this flushing may become an erythema more or less chronic in character, and if the digestive disturbance continues, chronic catarrhal changes may take place in the skin.

The skin diseases seen during the course of a chronic indigestion are acne, rosacea, and a variety of chronic eczema; these diseases are due to the long-continued irritation and subacute inflammation of the gastrointestinal mucous membranes, which prohibit the perfect metabolism and assimilation; in turn the functions of the liver and kidneys become impaired, and the skin in the endeavors to assist these organs becomes irritated, and as a result these various skin diseases occur.

Pelvic disorders in either sex produce effects upon the skin. In early puberty acne is a very common symptom of retarded

menstruation. Rosacea is seen in females with retroverted uteri or occluded tubes.

The sexual hyperesthesia of the young pubescent male has, perhaps, more to do with the production of acne than any other factor.

Constipation or an occlusion of the intestines low down in the pelvis is frequently the cause of simple acne in the young, and of erythema and rosacea in the older subject.

The most frequent neurocutaneous disturbance for which the general practitioner is consulted is the simple acute erythema of the menopause—the so-called hot flushes; this phenomenon is undoubtedly due to some disturbance of the sympathetic nervous system. The menopause erythema is often the forerunner of rosacea, especially that variety in which the enlarged veins (telangiectasis) predominate.

Urticaria, due to indirect irritation, acts chiefly through the gastrointestinal tract, although disturbances of the pelvic organs seem, in some cases, to provoke an urticaria. Some women always have an attack just before the menstrual period; the same phenomenon has been observed during pregnancy and lactation. Anxiety and worry have also been noted as factors. Urticaria is sometimes a direct symptom of diseases of the nerves, as, for instance, locomotor ataxia.

Disorders of the liver, gall-bladder, and kidneys produce an impression on the skin. We have all been called upon to combat the intense pruritus of jaundice. Many cases of eczema will yield to treatment after attention has been directed to the liver; examination of the urine in these cases will generally reveal evidences of faulty metabolism. Some form of skin eruption is frequently met with in diseases of the kidney, as, for instance, eczema, purpura, and, toward the close of chronic nephritis, a grave form of erythema; the latter is of serious import, indicating profound poisoning of the system.

The cutaneous manifestations of diabetes cover a considerable range of diseases; the most prominent are pruritus, furuncles, and carbuncles.

An eczematous dermatitis affecting the flexors, the genital, anal, and inguinal regions should excite suspicion of glycosuria, especially if the patient complains of depression, thirst, and constant desire to urinate. Examination of the urine in such cases will often show the presence of sugar.

The occurrence of cutaneous manifestations during the course of rheumatism has been noted by every practitioner; the common-

est is purpura, and a more uncommon one known as peliosis rheumatica is a combination of purpura and erythema multiforme; erythema nodosum has also been observed, and a few cases of angioneurotic edema have been reported.

A number of skin diseases have been observed as a direct result of malaria; among them are erythema multiforme, urticaria, angioneurotic edema, herpes simplex and zoster. While some or all of these skin diseases have been seen ever since malaria was a recognized entity, it is only recently that any attempts have been made to demonstrate whether these lesions were epiphenomena, or if the malarial parasite was the causative factor.

It is easy to understand why skin disorders accompany Graves's disease, for the vasomotor disturbances attending this variety of thyroid enlargement are sufficient to cause many changes in the skin, both structural and functional; tachycardia could easily cause the localized sweating, and this in turn produce the hydrocystoma.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
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Membranous Endometritis.

F. F. Lawrence (*Journal of the American Medical Association,* Dec. 10, 1904) says that membranous endometritis is probably a condition due to trophic changes in the endometrium secondary to some intrapelvic disease.

This intrapelvic disease often is unilateral.

It is probably always unilateral in the beginning, although this remains to be proved.

The fact that all local methods of treatment of the uterus have failed to relieve the condition, together with the foregoing facts, would seem to warrant removal of the tubes and ovaries on one or both sides when shreds or casts are a part of painful menstruation.

The fact that nearly half of these cases were unilateral, although all of them had suffered for years, would warrant the hope of saving the possibility of maternity in all cases given early operation.

Many, if not all, the cases of membranous endometritis are

due to ovarian and tubal disease developing as a complication or a sequela to the exanthemata.

This being true, the strictest attention should be given those structures during the exanthemata, and the slightest indication of trouble should be promptly dealt with.

Early attention may often save one tube and ovary where neglect will sacrifice both.

In all cases, no matter what age, in which membrane is cast off during menstruation, a thorough pelvic examination should be made.

The importance of a thorough case history in all cases of menstrual pain should be emphasized.

Conditions of tubes and ovaries not inflammatory and not due to any form of infection may possibly cause this symptom.

THE ETIOLOGY AND MANAGEMENT OF BROW PRESENTATION.

At a recent meeting of the St. Louis Medical Society F. T. Tausig (*Medical Record,* Dec. 3, 1904) read a paper under this title and reported a case. The case threw an interesting light upon the etiology of brow presentations. Owing to the fact that the umbilical cord was tightly wound twice around the child's neck, together with a condition of hydramnion, deflection of the occiput occurred. A sudden and complete rupture of the bag of waters served to fix the head in this position. The speaker agreed with the view that conditions of the soft parts and accidents affecting the attitude of the child are more often responsible for the occurrence of brow presentations than anomalies of the bony pelvis. In the management he suggested that when the head had already entered the pelvis, and when Thorn's method of correcting the position could not be applied, the following procedure be tried: One blade of the forceps is passed around the occiput; two or three fingers of the opposite side are introduced to exert pressure upward on the brow, while at the same time traction is made downward with the forceps blade; in order to prevent the forceps blade from slipping, a certain amount of counter-pressure must be made between the blade and the fingers; an assistant simultaneously exerts pressure on the abdomen, with one hand pushing the chest of the child backward, and with the other hand pushing the breech forward. In this way pressure is exerted upon the child's body at four points, all tending to restore to the normal attitude. The procedure was tried in the case reported, and although not

successful, owing to the extremely critical condition of the child, it was shown that a very considerable amount of flexing power was obtained. The patient should be under an anesthetic. If the procedure is unsuccessful, it can be followed immediately by the application of forceps.

Early Menopause.

D. Schalet (*Australasian Medical Journal,* November, 1904) reports the case of a woman thirty-three years of age, who menstruated irregularly from fourteen years of age. She was married at seventeen, and conceived five months later; she had two days' hemorrhage at first, second, and third months, and an occasional show up to term. A healthy female child was born after a difficult labor, followed by hemorrhage. After six months' nursing her milk failed, and she had several severe hemorrhages at irregular intervals. She conceived again one year after her first labor, but aborted at two months with severe floodings, and afterward irregular hemorrhages. She had no regular menstruation for twelve months, but then again conceived, and after the birth of a weakly male child by a difficult labor with great hemorrhage she was ill for a long time, had no milk, and menstruation never reappeared—that is to say, the menopause was established at the age of twenty-one. Her grandmother, who enjoyed good health till the age of seventy-four, menstruated at thirteen, married at seventeen, and had three healthy children, but her menses finally ceased at thirty-five. Her mother, a healthy pluripara, did not reach her climacteric till the age of forty-eight.

Value of Blood-counts in Gynecological Diagnosis.

Newmann (*Wiener klin. Wochenschrift,* 42, 1901) in a great number of gynecological cases examined the blood, and comes to the following conclusions: Purulent processes of the perimetrium and adnexa show as a rule a leucocytosis, which decreases as the condition becomes localized. The leucocytosis may be present in very acute pus formations; it is also absent in debilitated individuals. A leucocytosis of over 15,000 is a definite indication of pus formation. Benign tumors produce no leucocytosis, though a moderate rise is found in malignant growths. A failure to demonstrate leucocytosis does not exclude infection.

THE MEDICAL AGE

VOL. XXIII. DETROIT, JANUARY 25, 1905. No. 2.

ORIGINAL CONTRIBUTIONS.

THE STUDY OF HEART STRAIN.

BY S. E. STADDON, M.D., PHILADELPHIA.

When the cause of cardiac failure is not discoverable, or the condition of the patient too urgent to justify dealing immediately with the cause, or if instant attention is demanded by dyspnea, palpitation, and failure of the pulse, employ cardiac stimulants without hesitation. The best of these are ether, ammonia, and alcohol; while the subcutaneous injection of one or two minims of the one-per-cent solution of the hydrochlorate of strychnine in some instances has a marvelous effect in restoring the flagging action of the ventricles. If the urgency is due to engorgement of the lungs and failure of the right side of the heart, great benefit may be derived from venesection, cupping, and leeching. If less urgent, the judicious use of hydragogue purgatives, mercurial cholagogues, and stimulant expectorants will be attended with the best results. Should the condition of the patient be even less urgent, the rational indication is to increase the cardiac force, so that the circulation may be restored and maintained; this can be fulfilled by the employment of digitalis, strophanthus, caffeine, squill, and their allies. Sometimes one and sometimes another of these remedies answers best; but on the whole, there can be no question that digitalis, rationally employed, is still the most valuable, or the best results are obtained from combinations of these drugs with each other and with other remedies, such as nitrites, strychnine, and iron later. The essential importance of attention to diet must be insisted upon; it must be highly nutritious, perfectly digestible, and given at short intervals, and under this head must be included the administration of stimulants in proper form and amount. Schott of Bad-Nauheim put the problem of the pathology of cardiac strain to experimental proof, by an investi-

gation which occurs more frequently in Germany than elsewhere; he induced acute strain of the heart in perfectly strong, healthy men by wrestling, which was made more violent until breathlessness was produced; then in a second series of experiments the abdomen was at the same time encircled with a girdle applied below the borders of the ribs, so as to restrain the diaphragm, compress the bowels, and otherwise raise the intracardiac pressure. By these means, Schott succeeded in establishing all the symptoms of acute cardiac dilatation; the intracardiac pressure rose; dyspnea occurred; the pulse became irregular and very frequent; and the precordial dulness was increased in extent in both directions, indicating enlargement of both ventricles and auricles. This result agrees with what is found in persons who strain their hearts by exertion and tight clothing, for in these, as in the experimental cases, complete recovery takes place if the persons be otherwise sound; but distressing or even dangerous symptoms may arise and persist, or death occur, if the heart be previously weakened by degeneration or valvular trouble. Schott recommends that the treatment of such cases should be begun by ordering absolute rest and nutritious feeding, relieving pain by warm applications, or morphine if necessary. Later on, as tonics are indicated, the best line of treatment is to order strengthening food, moderate exercise in the fresh air, and the baths and resistive gymnastics so highly esteemed in Germany. There can be no question of the wisdom of rest in cases of acute cardiac strain; but the difficulty is to enforce rest for a sufficient length of time in patients who are generally men of active disposition and resent control. In cases of less severe cardiac strain in Great Britain a different line of treatment has been tried. In many instances of this kind the most important cause is unquestionably not so much the severity of the exertion as the unhealthy condition of the cardiac wall, which—either from that irritability often seen in soldiers or from a kind of malnutrition frequently met with in middle-aged men of gouty habit—may be "strained" even by moderate exertion. The treatment must then very faithfully respect the indications of temperament and diathesis; in such patients exercise is invaluable, if properly regulated.

A form of heart trouble to be differentiated from heart strain is fibroid degeneration of the heart; for example, a patient says that his illness dates back two years, at which time he first noticed that he had some shortness of breath on slight exertion; but previous to this he had been well; the members of his family may be long-lived, but inclined to be quite stout. He is accustomed

to drink liquor freely, but does not become intoxicated; he may be now exceedingly obese, and this accumulation of adipose began years ago; at one time his weight was close to three hundred pounds. The shortness of breath develops slowly and is not accompanied by any cough; in fact, it is rather a sinking feeling about the heart than a distinct shortness of breath, and it is becoming worse. There is one point of interest in connection with the history, and that is that the stoutness is a family trait: there are many people weighing two hundred and eighty or three hundred pounds who are in perfectly good health. You see how impossible it would be to determine in a man so stout as this the position of the apex-beat of the heart. His respiration is labored, and the effort of taking off his clothing has caused marked cyanosis. Percussion is not very serviceable here on account of the large amount of fat on the surface of the body, but we are able to make out that the dulness extends below the free border of the ribs. Sibilant râles are heard over the anterior portion of the chest, and the respiration is wheezing; as he lies down on his back his face becomes red and turgid, and he cannot go to sleep in this position, but must turn on one side. The arteries feel hard, and the pulse at one moment shows high tension, and at another becomes feeble and irregular. This indicates the existence of some arterial change. Although it is difficult to determine the exact size of his heart, it evidently is considerably enlarged: the heart-sounds are audible two inches to the left of their normal position; the first sound is short instead of having that long, full, characteristic sound of a normal heart. There is no noticeable murmur. The lower extremities are discolored, and pit on pressure; the edema is evidently chronic.

I have in mind such a patient who has been getting more short of breath for the last three years. The popular explanation of this would be that it is because he is getting fat; but a simple increase of adipose will not of itself do this, but such a condition is always connected with some change in the heart, the most frequent cause being fatty infiltration. If he had fatty infiltration of the heart, which would cause the condition of the circulation which exists, his heart-power would be so far interfered with that he would be unable to go up-stairs to any extent; but there is evidently quite extensive arterial sclerosis which assists in determining the condition present in this patient, and this arterial change has probably been developing for a long time. A free use of alcohol, a sedentary life, and heavy eating favor such a change; and this is just my patient's history. At first there was

cardiac hypertrophy, but during the last two or three years this has not been sufficient to compensate for this continued obstruction, and as a result there has been interference with the return circulation, giving rise to cardiac palpitation, so that the patient feels an unpleasant sensation about his heart, which he describes as a shortness of breath. The cardiac changes which usually occur under such conditions are fibroid rather than fatty, although the two conditions may exist together. It is this fibroid change which is especially dangerous in this class of subjects; for it will be accompanied sooner or later by indications of kidney insufficiency. In my case, from his history and the results of the urinary examination, there has been a combination of cirrhotic changes in the kidney with attacks of acute parenchymatous nephritis; so that at times the urine has been of low specific gravity and abundant, and at others has been scanty, highly colored, and of high specific gravity, with casts.

A man may be predisposed to development of adipose, and even if he lead a carefully regulated life he cannot prevent its development, nor can he prevent some fatty infiltration upon the heart, liver, and other organs; but this infiltration will not give rise to serious dyspnea. But if such patients lead irregular lives and become alcoholic, they are then liable to develop arterial changes. This man has had heart insufficiency for a long time, and even if he should now be put upon a strict diet and given systematic exercise, we might reduce his weight and relieve him somewhat of his dyspnea, but the arterial and kidney changes would not be checked. If we restrict the diet and establish systematic physical exercises in one who has simple obesity, it is wonderful how much improvement will occur; such persons will not only lose weight, but be permanently relieved of their dyspnea, while the class represented by my patient will not, and I question whether it is safe to subject such a case to such treatment. There is more or less danger of increasing the heart insufficiency by such a course and thus hastening the fatal issue; one is very likely by a restricted diet to interfere seriously with nutrition; especially is this true in chronic alcoholic subjects. I am greatly in favor of dietetic treatment in cirrhotic kidney; but be careful never to change the diet sufficiently to interefere with nutrition in chronic alcoholic patients. If they express themselves as feeling weak under restricted diet, it should be made more generous, perhaps even giving stimulants from time to time.

Precordial pain is of comparatively common occurrence, but it always causes great anxiety and distress. The following case

will illustrate one form of angina pectoris: A young woman twenty years old, vigorous and robust, but fatigued and constantly excited by the pleasures of society, was suddenly taken with violent cardiac pain. Her face was pale, her pulse small and hard; she was greatly alarmed, and complained of excruciating pain in her chest; this pain was greater under the left breast than anywhere else, but radiated over the chest. There was no difficulty of breathing, but the respirations were slightly hurried and irregular; there were eructations of gas occasionally, and the bowels were considerably distended. A hypodermic injection of morphine gave prompt relief, and soon afterward there was a profuse flow of limpid urine. Such cases as this are familiar to every physician; they are hysterical in character.

Supposing a young man consults you for paroxysms of pain in the region of the heart which give him great anxiety; his pulse is soft and compressible, his skin rather pale, and he is easily fatigued; he says he "gets out of breath easily," and has palpitation of the heart; the valvular sounds are normal, but the cardiac impulse is weak. He suffers slightly from flatulence and indigestion, but not sufficiently to cause him much discomfort. On inquiry you find that he is a hard student, takes but little exercise, and smokes cigarettes perhaps almost incessantly. Active exercise, the disuse of tobacco, and the administration of strychnine for a few weeks cause the attacks to disappear. Nicotine weakens the action of the heart but does not dilate the vessels, so that it causes a loss of balance between the force of the heart and the vascular tension.

In a third class of cases there may be dropsy of a high degree, without any evidence of valvular trouble except that which comes from the dilatation of a heart weakened by myocardial disease and extensive atheroma. For example, a gentleman seventy years old was suffering from extensive dropsy of the lower limbs and scrotum and also of the chest; the cardiac sounds were normal, but the action of the heart was very irregular. The heart was enlarged, but the impulse was rather feeble, and the arteries were rigid. There was no history of rheumatism, but the patient himself and other members of the family were very gouty; especially on making any exertion this gentleman would have very severe attacks of precordial pain and great anxiety and distress, but there was no difficulty of breathing. Neither amyl nitrite nor nitroglycerin gave any relief. The usual remedies to relieve the dropsical accumulation were administered with temporary benefit, but the attacks continued, and he died subsequently.

Three classes of cases are quoted in which cardiac pain is a prominent symptom: (1) those which occur in young persons, usually girls or young women, who are distinctly hysterical; (2) those which occur usually in young persons who use tobacco to great excess; and (3) those who have degenerative changes in the walls of the blood-vessels, causing these vessels to become rigid. There is only one condition which is common to all the different classes of cases, namely, a loss of balance between the heart-power and the vascular tension. The rational, successful treatment of these cases depends upon a clear understanding of their character. It is a very striking and significant fact that, even in cases of marked and extensive atheroma, attacks of angina pectoris are not common until the heart begins to flag; and if I may judge from my own experience, valvular troubles commencing in early life are not apt to be accompanied by anginal paroxysms, even when compensation fails. The explanation of this is found in the fact that the vascular walls are soft and relaxed in these cases, and there is no loss of balance between the heart-power and the vascular tension. In the first or hysterical form the prognosis is uniformly good; so far as I know no case of this character has ever resulted fatally. The reason is simple: the high vascular tension is purely spasmodic in character, and relaxation invariably occurs before the heart is subjected to serious overstrain.

In the second class of cases, those due to tobacco, the prognosis is also good, and for a similar reason—the increased tension in the vessels is due to spasm of their muscular coat alone. Very different is it, unfortunately, in those cases where the increase of tension is due to atheroma, and the cardiac weakness to organic change in the muscular walls of that organ; care and prudence with respect to overexertion and excitement may prolong life for some time. The general history of the case is of great assistance; in the case of a girl, for example, who was subject to hysteria, attacks of precordial pain would almost certainly be due to spasmodic contraction of the vessels, temporary in duration and harmless in character. So, too, in cases due to the excessive use of tobacco, the history will usually be sufficient to make the diagnosis clear. Of far more importance, however, than anything else in these cases, as a rule, is the age of the patient; hysteria is, in the main, a disease of youth or early adult life, while the injurious effects of tobacco, too, usually occur long before middle life. Atheroma, on the other hand, is preëminently a disease of advanced age, though it may occur comparatively early. The treatment, and the results of treatment, too, depend entirely on

the nature of the case. In all cases where the increased vascular tension is due to spasm of the muscular coat of the arteries, the inhalation of nitrite of amyl will give prompt relief; there are other agents also that, while slower in their action, are not less decided in the results which they produce. Asafetida, valerian, and ammonia are very efficacious during the attack or to prevent an immediate recurrence. To break up the tendency to such attacks in hysterical cases nerve tonics, and especially nux vomica and phosphorus, have given excellent results. Often quinine and iron may be added with advantage, and sometimes, when these remedies have failed or been slow in producing their effects, valerianate of zinc in combination with one or more of the agents which I have just mentioned is excellent. Fresh air, nutritious food, and the avoidance of excitement are, of course, always indicated. In the few cases which were apparently due to the excessive use of tobacco, one drug has given far more prompt relief than anything else, namely, strychnine. It has no effect on a paroxysm which is already present, but it soon prevents a recurrence. It is needless to say that no medicine will give relief in such cases unless the injurious habit be abandoned.

The treatment of cardiac angina due to organic disease of the blood-vessels and heart is less satisfactory in results, and for this obvious reason, that the vascular tension is due to organic changes in the walls of the blood-vessels, which drugs cannot cure. The great indication in all cases is to restore the balance between the heart-power and the vascular tension; there are two ways, theoretically, in which this may be done—first, by relaxing the blood-vessels, and secondly, by increasing the power of the heart. The nitrites—amyl nitrite, nitroglycerin, and nitrite of sodium—are by far the best agents to cause dilatation of the vessels, but they cannot, of course, cause relaxation in vessels whose walls are rigid from fibroid or atheromatous change; in these cases, however, some vessels are always unaffected, and the relaxation of those which are sound may be sufficient to relieve the heart of overwork and to diminish the severity of the attacks, if not to prevent them altogether. Amyl nitrite and nitroglycerin should therefore be tried, with the hope at least of relieving the attacks. To increase the heart-power a number of agents have been proposed—alcohol, ammonia, digitalis, strophanthus, coffee, and other heart stimulants. Unquestionably they sometimes give some relief, but their action is too slow to make them of much value during a paroxysm in those cases which are due to organic disease of the heart and vessels. In order to strengthen the heart's action

and to prevent recurrences of the paroxysms of angina, a combination of digitalis or strophanthus with nitroglycerin has given good results. Under this treatment the attacks are rendered less frequent and less severe, while the combination of nitroglycerin with digitalis or strophanthus, to which Da Costa has called especial attention, is particularly useful, because by the combined action of these drugs the contraction of the blood-vessels usually caused by digitalis is prevented and the heart-power is increased without any increase in the work it has performed. A large number of cases exists, unfortunately, in which neither agents which lessen vascular tension nor those which increase heart-power are capable of giving relief. The probable explanation is that in these cases not only are the walls of the vessels extensively degenerated and rigid, but the muscular tissue of the heart itself has been so weakened by fatty degeneration or replaced by connective tissue—as in chronic myocarditis—that it fails to respond to stimulants and tonics; all that can be done is to lessen pain by hypodermic injections of morphine; and in nearly all cases due to organic changes in the heart and vessels a stage is finally reached, if life be sufficiently prolonged, when morphine becomes our only drug.

To return a moment to tobacco. The uncomplicated effects of tobacco on young healthy hearts, as they present themselves clinically, are palpitation, a sense of irregular action, poststernal oppression and pain in half the cases, and one out of every eight or ten suffers either angina or uncomfortable sensations in the left arm; faintness or actual faints occur in one-third, and giddiness and a feeling of impending death in a smaller proportion. Physical examination shows that the heart is of ordinary size in 50 per cent of the patients, in a few it is very slightly enlarged; the precordial impulse is often very weak, but occasionally increased in force and frequency, and often irregular; the pulse tension, with insignificant exceptions, is found low. Out of twenty such patients who complained of the heart, not one presented a cardiac murmur beyond a weak mitral systolic bruit, varying with posture or decubitus. As an exemplary case, a man of forty will complain of his heart; he has smoked for years the strongest and blackest tobacco; his heart is not enlarged, and the cardiac sounds may be described as ordinary were they not peculiarly irregular, the frequency changing every moment, and a falter occurring at short intervals. There is not a trace of murmur to be found in connection with the valves and orifices. At ages over forty, whilst palpitation is still the more common complaint, pain, including angina, is put forward more prominently, and so are faintness,

a feeling of impending death, and a sense of cardiac irregularity, each intermission being accompanied with a sudden stab through the precordia. In these subjects the heart is more frequently found to be large and feeble; the same weak systolic murmur is occasionally to be heard; the radial pulse is often irregular, and the vessel wall thick. Every cardiovascular lesion that may happen to be found in tobacco smokers is not to be put to the credit of tobacco, nor should precordial pain, angina, faintness, and irregular pulse, in a man of sixty with a full-sized heart, be hastily regarded as evidences of grave disease without further inquiry as to the habits of the patient. The cardiac enlargement and large pulse may be nothing more than the result of a life of bodily and mental activity; the precordial distress may be the only result of tobacco.

The alcoholic heart presents clinical characters as a whole very different from those of tobacco heart. The most striking and important of these are the evidences of actual pathological change in the size of the heart and the condition of the myocardium. Of twenty-eight cases of alcoholic heart, in only two were the hearts of ordinary size, and in both of these cases the patients were under forty years of age. With hardly an exception the precordial impulse is weak, the sounds are small and feeble, and may be almost inaudible; in 20 per cent of cases a weak apex systolic murmur could be heard, varying with posture and from day to day, significant no doubt of leakage through a dilated mitral opening. The alcoholic heart is irregular and accelerated in about half the cases; the pulse tension is low; in one-third of the instances the radial artery was sclerosed; in one-fifth of them there was slight albuminaria; the legs may be edematous. The complaints with which the patient comes are commonly palpitation of the heart, faintness or actual faints, and precordial pain, but it is very interesting to observe that angina pectoris is rare in the alcoholic as compared with the tobacco heart, in the ratio of 4 to 15 per cent.

Instances of disorder and disease of the heart and arteries are met with in gouty subjects at or over forty years of age. Out of twenty-nine cases collected by Bruce, twelve had suffered from ordinary articular gout; the other seventeen had irregular gout. In no instance was there albuminuria. In twenty-three of the twenty-nine cases the heart proved to be enlarged either on one or on both sides. In less than half the number the cardiac action was feeble; in a small number the impulse was entirely imperceptible; the heart and pulse rate was ordinary; the rhythm was

but seldom irregular. In twelve out of the twenty-nine cases of gouty heart a systolic murmur was to be heard over the aortic area, the manubrium, and the right carotid, significant of disease either of the aortic arch or of the aortic valves. In seven cases a more or less well developed systolic murmur was found in the mitral area, significant either of valvular atheroma and sclerosis or of leakage from vermicular dilatation. When no murmur exists the cardiac sounds are commonly somewhat feeble and the second sound may be of a ringing quality. The radial pulse is more often tense in the subjects of irregular than of regular gout, the great majority presenting distinct thickening of the arterial walls. Besides a distressing feeling of irregularity, fluttering, or intermittency and dyspnea on exertion, men who are the subjects of gouty heart complain most frequently of precordial pain; women complain more often of palpitation and faintness or actual faints. In quite one-fourth of all cases of gouty heart the pain is anginal, and such angina may be of the most pronounced type.

Closely related to goutiness is a clinical type of disturbed metabolism characterized by corpulence and glycosuria. Of patients so affected who complained of cardiac symptoms, seventy-five per cent had a systolic aortic murmur, none of them a regurgitant aortic murmur, and nearly one-half of them an ill-developed mitral systolic murmur. In eleven cases of acute strain of the heart, the heart in all but one was large, with feeble precordial impulse; the sounds were small and feeble, the aortic diastolic sound was often ringing; in but one case was there a murmur. With few exceptions the rhythm and the rate of the heart were ordinary. In half the cases the radial artery was sclerosed; in the majority the tension was not increased. Persons who strain their hearts after middle life chiefly complain of precordial oppression, a sense of palpitation and irregular action of the heart, and pain, which may amount to angina. Of these eleven individuals, seven were gouty. In the case of a person who has strained his heart in youth or early manhood and has never been quite well since, the heart is always found to be enlarged; in about one-half of the cases it is irregular. It may be weak and beating at the ordinary rate, but in other instances it is increased both in force and frequency. In quite exceptional cases endocardial murmurs are heard. High tension and sclerosis of the radial artery were respectively found in one-half of the cases; the patients complain most commonly of a distressing sense of irregular palpitation of the heart, and very commonly of precordial pain, but rarely of angina.

Syphilis appears to account for a very considerable proportion of the more serious cases of heart disease that we meet with in older subjects, of course excluding chronic valvular disease originating remotely in endocarditis.

GONORRHEA IN THE FEMALE, AND PRIVILEGED COMMUNICATIONS.

BY E. S. MC KEE, M.D., CINCINNATI.

Queer cases have frequently come before me, in the last quarter of a century, connected with my patients, mostly female, who come to me for the treatment of gonorrhea and its sequelæ. I have on several occasions had the husband in the back office and the wife in the waiting-room, or *vice versa,* each suffering from gonorrhea, and each trying to keep it from the other, thinking of course he or she had contracted it on the outside, each having had opportunity.

There comes to mind just now one whom I treated for various ailments as a girl. She afterwards married, and in a few years her husband came to me with the gonorrhea. During the treatment his wife became suspicious, and approached me, trying to find out what was the matter with Jack. I told her that I would not tell on him any more than I would on her, and she would have to seek her information elsewhere. This was peculiarly effective, because I had secrets of hers which I had faithfully kept. She was no fool, however; she went to the public library, read up on the subject, and settled in her mind as positively as only a woman can that Jack had the clap. Their troubles were patched up, peace reigned, and in a few months she appeared with the gonorrhea. War for a while, then a short truce; now they occupy separate residences. Did I do my duty to the wife, who was first my patient, and through whom the husband came to me? Was I overcareful, for the wife's good, of the sacredness of the husband's secret?

A dapper young dandy tripped into my office one day. With an honesty which was surprising he said: "My wife has the clap; I gave it to her, and I want you to come and treat her." I went, found his diagnosis correct, and in due time she improved and was well so far as I could tell. Being just married—it is only the newly married who tells his wife secrets—he was so unwise as to tell her what he had told me. Shortly afterward they moved to St. Louis, and wonderful to tell forgot to pay me! A few

years later a still stranger thing happened. They each began to pay me in instalments of $5. They kept about neck and neck, and I kept still. When they had both paid in full I returned the wife's money to her and kept his. Later the anxiety of both to pay the bill was explained by the filing of divorce proceedings on the part of the wife. I received notice from a very youthful and apparently important notary to come and give my deposition in the case. I went, but declined to tell what the husband had told me about infecting his wife, claiming privileged communication. I was dismissed, to give him time to communicate with St. Louis. This proceeding was repeated five times. The fifth time a constable was called, and I was placed under arrest, and informed by the august youth that I would have to go to jail and remain there till I was willing to testify on this point. I advised him not to send me to jail, which counsel he seemed to think good, and told me that if I would promise to appear before Judge Hollister the next day he would let me go. I promised. I appeared before the judge. The case was argued and taken under advisement. I reappeared in a week, and the case was again taken under advisement. I was called a third time, and at the end of three weeks I was ordered by the judge to testify on this point. The argument was that the wife was the patient, that the husband was not. The wife, the patient, wanted the testimony given, hence I was ordered to give it. Had the wife not wanted me to tell I would not have been allowed to testify. Still, the husband came to me as a physician, and talked to me as a physician, asking me to treat his wife, giving me such information, in confidence, as he thought I needed to best manage her case. Had I treated him, I doubt if I could have been ordered to tell.

The law is that the doctor, lawyer, or minister cannot be compelled to testify in court, or elsewhere, what professional knowledge he has about his patient, client, or parishioner, unless he or she wishes him to do so. The great majority of attorneys with whom I spoke thought the judge's decision wrong. The second case differs from the first in that the husband had never been a patient of mine.

A patient came to my clinic in August last with the gonorrhea. In September the students began to return after vacation. She forbade me telling them what was the matter as she had a personal acquaintance with several of them. Had I the right to tell them that she had the gonorrhea, or even to show them that she had?

Judge Hollister doubtless knows more about law than I do

and probably interpreted it correctly, but if such is the law it should be changed. I should not have been ordered to tell what the woman's husband told me about infecting his wife.

SPORADIC CEREBROSPINAL MENINGITIS.

BY MALONE DUGGAN, M.D., EAGLE PASS, TEXAS.

Epidemic cerebrospinal meningitis and sporadic cerebrospinal meningitis are essentially the same in pathology and symptomatology, differing only in their etiological factors. The specific cause of the epidemic form has been found to be the diplococcus intercellularis meningitidis of Weichselbaum, while the sporadic cases are caused by different infectious agencies, viz., streptococcus pyogenes, pneumococcus, bacillus typhosus, the microörganism of influenza, and others. Meningitis may occur independently of any of these diseases, or in the course of them, or as a sequela of them. Very frequently some advance has been made in diagnosis by the examination of the cerebrospinal fluid. In this way some infectious organism can usually be found. Also, what appears to be a distinction of considerable importance is the presence in all cases of multinuclear cells, and a slightly lower freezing point of the fluid.

Meningitis is very irregular in its distribution, and has many typical forms. However, the differential diagnosis from other acute infectious diseases should not be very difficult. It differs from them greatly in the severity of the nervous symptoms, which, together with continued stupor or coma, opisthotonos, slow pulse, and irregular respiration, point very clearly to the nature of the trouble. In addition to these symptoms, in most cases, there will be present high fever, rigidity of the lower extremities, contracted abdomen, and the Kernig sign.

To give a more general description of the various types would unnecessarily lengthen this paper; besides, I wish especially to call attention to the symptoms observed by me in four cases which came under my observation during the past year. In each instance there was no connection or suggestion of infection. Each case occurred in widely separated localities, after several months' interval between them, and under different social conditions. Of these cases, one was under a year old, two under two years, and one was five years old. The infant was bottle-fed and poorly nourished, though its surroundings were healthful. It had had previously several attacks of enterocolitis, but for a month or so

prior to this its health had been very good. The attack was preceded by a mild diarrhea and slight fever lasting for three days, when suddenly the fever rose to 104° F., and a convulsion followed. After the convulsion there was opisthotonos, and vomiting at intervals. The fever soon subsided. The child was extremely restless, and the entire body seemed to be hyperesthetic. After twenty-four hours the restlessness gave place to coma, and toward the last there was Cheyne-Stokes respiration. Death occurred on the fourth day.

The second and third cases were in children very strong and robust. Each had had a cold and some fever for three or four days, which resisted the usual treatment administered in such cases. The first of these, after the fourth day, had diarrhea and frequent vomiting spells. The fever became high and ran a very irregular course. On the sixth day there developed a very severe laryngitis, without the appearance of any membrane. This persisted for two days, with very great embarrassment to the respiration. During this time the child was extremely restless and peevish. The vomiting ceased, and the croup became much better, but the respiration continued to be irregular and coma soon came on. There was also contraction of the abdomen and opisthotonos. This condition lasted for seven days, when death occurred.

The second child had no diarrhea or vomiting, but after the fifth day of the coryza he had some elevation of temperature, and a slight convulsion. The fever, however, never rose above 103° F., and it usually remained about 100° to 102° F. There was also great hyperesthesia and nervousness, constipation, and retention of urine. Coma occurred on the third day after the spasm. In this case the thermocautery was applied along the spine, which caused some slight amelioration in the coma. This improvement continued for twelve hours. Toward the last the temperature fell to below normal, and the body heat had to be maintained by external applications. Opisthotonos and Cheyne-Stokes respiration were present at the last. Death occurred on the fifth day after the spasm.

The fourth case was five years old. She had always been delicate, though her surroundings were good. She had had a slow fever of a very irregular type for some two or three weeks, though the temperature was never very high. While apparently improving, and without warning, twitching movements of the hands appeared, which grew more severe and more frequent between intervals. In twelve hours there was marked opisthotonos, contraction of the abdomen, and the Kernig sign. The

temperature was very irregular and the pulse was weak. I did not see the patient after this, but I was informed that she soon lapsed into a semiconscious condition, and that the contraction of the arms continued. Cheyne-Stokes respiration came on at the last, and death occurred on the eighth day.

The treatment of these cases depends almost entirely upon the symptoms present, but these being so irregular, no definite course can be followed out. In a general way, opium or bromide and chloral, given by mouth or by injection, will very greatly relieve the pain and control the spasms. But in the case of infants opium must be given very cautiously, as an overdose may itself cause coma. Undoubtedly the thermocautery, applied along the spine, causes a temporary relief. Nourishment, as peptonized milk and beef juice, can be given, but after coma occurs it must be given by rectal injection or by lavage. The temperature is not usually hard to control. Occasionally, stimulation in the way of whiskey or strychnine will be required. Withdrawal of the cerebrospinal fluid has been recommended, and inasmuch as it affords an additional means of diagnosis, it should be practiced wherever means are at hand for detecting bacteria.

In discussing this affection, I wish to call attention to the following suggestions: (1) In young children with colds, where the fever persists after appropriate treatment, suspicion should be aroused as to the possibility of meningeal infection. It was suggested by one of my colleagues that such cases were influenza, and that the cause of the meningitis was the direct infection of the meninges by the influenza bacillus. (2) The desirability of bacterial diagnostic methods being more generally used by the general practitioner. In such cases as I have cited, for instance, if it were possible to know the real etiological factors, a more rational treatment might be prescribed. (3) The distinction must be made between the epidemic or contagious form and the sporadic or non-contagious form. This is important, for protection should be given the public from the former, and the non-contagiousness of the latter should be fully explained for the good of the patient, and to relieve the public anxiety. The public generally look upon this disease as being very contagious, and the burial regulations affecting it in many places are very rigid and fail to make this important distinction.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

VACCINES AND ANTITOXINS.

A discussion in a recent medical journal seems to disclose some confusion of mind in regard to the differences between a vaccine and an antitoxin, and the character of the immunity produced by each.

While a detailed discussion of the modern theories of immunity would be out of place here, it may be said in brief that Ehrlich's theory supposes that when very small amounts of bacteria or their toxins are introduced into the body, certain substances are produced by the body which destroy these poisons. These so-called "antibodies" are formed in excess of that which is required to destroy the poison introduced, and they continue to be formed for a time after the effect of the poison has disappeared. So long as these "antibodies" are present, immunity exists to the particular organism or toxin which has stimulated the body to their production.

Broadly speaking, we have two types of immunity—active and passive. Active immunity is produced in the way just described. Examples of this are the immunity following vaccination against smallpox, and the immunity to hydrophobia produced by the Pasteur treatment.

When it is wished to render a person immune to smallpox, he is inoculated with a modified smallpox virus, whereupon he acquires a mild form of the disease, and certain substances are produced in his body which protect it against infection with smallpox for a considerable length of time. The Pasteur treatment for hydrophobia depends on the fact that a long period elapses between infection with the disease and the appearance of its first symptoms. During this interval the patient is inoculated with gradually increasing doses of an attenuated virus of hydro-

phobia, until, when the time arrives for the appearance of the symptoms, substances have been produced in the body which protect him—in other words, he is immune.

Passive immunity is something quite different. The most common instance of this type of immunity is that produced by the use of diphtheria antitoxin. In order to render a patient passively immune, it is necessary first to actively immunize some other animal by the means already noted. For diphtheria, a horse is injected with gradually increasing doses of diphtheria toxin, until substances are produced in his body which enable him to resist many times the dose of toxin that would at first have proved fatal. The horse is then bled, and his blood serum, which contains the protecting substances, is injected into the child we wish to immunize. This protects the child against just as much toxin as the horse serum is able to neutralize, and no more. If we wish to confer further immunity, we must inject more serum. In this instance the body is not stimulated to produce protective substances of its own; it simply receives its antitoxin ready-made from the horse; it takes no active part in the process.

Comparing the active immunity by inoculation with a microorganism or its toxin, or in other words, by vaccination, with the passive immunity produced by the injection of an antitoxin, a marked difference between them is seen.

The active immunity is produced slowly, but persists for a considerable period, because the body is stimulated to form protective substances, and this stimulation is more or less lasting.

The passive immunity is produced quickly, but disappears as rapidly, because the antitoxin is furnished the patient ready-made; there is no stimulation of the body to form protective substances, and as soon as the antitoxin injected is exhausted the immunity disappears.

EDITORIAL NOTES.

A New Method for Separation of the Urine by Massage.

A foreign exchange of a recent date contains an interesting account of the procedures practiced by Drs. Giordono and Nicolich, of Triest, for obtaining the urine from either kidney without the use of a ureteral catheter. Giordono observed during a nephrectomy that the urine in the manipulated kidney was pressed out, so that the first urine passed after the operation contained morbid products. Following this hint it occurred to him

that the urine might be expressed for diagnostic purposes by massage. The procedure followed by these observers is indeed very simple. The bladder is first emptied, and then one of the kidneys and its ureter is massaged through the lumbar and abdominal regions. The resulting urine in the bladder is withdrawn, the bladder again carefully washed, and the same process applied to the remaining kidney. A number of diagnoses arrived at by this procedure were later confirmed by nephrectomy. The simplicity of this method will commend it to physicians owing to the fact that to catheterize a ureter, especially in the male, requires special skill, and it is a question of grave importance whether or not a catheter after passing through an infected bladder ought to be inserted into a healthy ureter.

Municipal Club Practice.

An item in the *British Medical Journal* says that the canton of Zurich is about to levy an annual poll tax of 86 cents to be called the Zurich medical tax. With this fund it is proposed to employ half a hundred physicians whose services will be at the disposal of any member of the commune free of charge. This appears to be but a modification of club practice, which has grown to such proportions in certain parts of Europe during the past few years. It is very doubtful if such a scheme can be made successful, as the more prominent practitioners will naturally refuse to do such work, leaving only the younger and less experienced to fill the positions. The plan appears to be a poor one, but as it is the first attempt of a municipality to apply club practice it will be watched with much interest by the profession.

The Control of Gauze Sponges in Laparotomy.

Owing to the number of tragedies that have resulted from lost gauze sponges during laparotomies, surgeons have ever been on the alert to avoid such accidents. A writer in the *Centralblatt für Gynäkologie* of a recent date describes what appears to be a safe and simple method. Every compress introduced into the abdomen is weighted; a weight of about two scruples is fastened to the corner of each pad by a linen cord some seven inches long, and when the pads are introduced the weights hang down on either side of the abdomen. Under such a system it would appear impossible for any pad to remain in the abdomen after laparotomy.

ITEMS AND NOTES.

It is proposed that a congress on malaria shall be held at Naples.

The twenty-sixth congress of the German Balneological Society will be held at Berlin in March, 1905.

Professor Debove has been unanimously reëlected dean of the Medical Faculty of the University of Paris.

The Wilhelm Order, which is awarded in recognition of services rendered in the cause of the public welfare, has been conferred on Prof. Robert Koch.

A sanatorium for consumptives, intended as a memorial of King Humbert I., was opened at Leghorn on November 19, 1904, in the presence of the King of Italy.

A new policlinic for the relief of the sick poor is about to be established at Athens in the Piræus. It is to be entirely managed and officered by women.

The first annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held in Washington, D. C., on the third Tuesday of May, 1905.

A society of women in Berlin has recently presented a petition to the Prussian Minister of Education, praying for the prohibition of corsets in young ladies' schools on the ground that this garment is prejudicial to the health of the growing girl.

The French Congress of Surgery will convene at Paris the first Monday in October, 1905. The questions appointed for discussion are "Surgery of the Pancreas," "Restorative Surgery of the Face," and "Conservative Surgery in Trauma of the Limbs."

The Governor of Viatka reports, says an exchange, a serious outbreak of Siberian plague in factories in the district of Viatka and Slobodski which are preparing fur coats for the troops in Manchuria. Two hundred and forty-seven cases have already been reported. The plague has been traced to sheepskins, and the delivery of fur garments to the Russian troops has been suspended.

It is proposed to erect a monument to Father Kneipp in Vienna, and a site in the City Park has been selected for the purpose. It is said that the municipality has promised a grant in furtherance of the scheme. It only remains for the enlightened administrators of the Imperial-Royal City to vote funds for statues to Hahnemann, Mesmer, Mother Eddy, and "Profit" Dowie.

By means of a most ingenious electrical apparatus photographs have been taken in one-ten-thousandth part of a second at the institute for technico-scientific investigations in Neubablesberg, near Berlin. Herr Schinning of this institute read a paper on its progress, and among other photographs demonstrated was a series showing the destruction of bone by a modern small-bore bullet.

A series of experiments on Behring's method of vaccinating calves against bovine tuberculosis is about to be undertaken by the Paris Society of Practical Veterinary Medicine. Four months ago a similar experimental research was begun in the Belgian Agricultural Institute under the auspices of the Ministry of Agriculture by M. Scholl, of Gembloux, and M. Lepoutre, assistant in the Agricultural Institute.

An exchange states that after Professor Taguchi, of the Imperial University, Tokio, died his brain was weighed and found to stand second in the list of 107 brains of eminent men throughout the world whose brain capacity has been recorded. Taguchi's brain weighed 1920 grammes. The weight of the human brain ranges between 300 grammes for the imbecile to 2000 grammes for the man of genius.

One of the most distinguished among Berlin University teachers and clinicians, Prof. Hermann Senator, celebrated his seventieth birthday on December 6. Almost the entire faculty of Berlin and numerous former pupils now living in other German towns joined in ovations and congratulations, and thus gave the entire day a festive character. Senator's whole career has been connected with Berlin and its university.

On November 17, 1904, the University of Kasan celebrated the centenary of its foundation. In point of age it ranks third among the universities of Russia. A century ago there was, with the exception of Dorpat, which was then wholly German, only one university in the dominions of the Czar—that of Moscow.

which then had only 210 students. Now the University of Kasan has 902 students; nevertheless, with the exception of Tomsk in Siberia, it is the smallest university in Russia.

THE annual report of the New York St. John's Guild Society has recently been published. It states that during the past summer the floating hospital has carried 4916 babies, 15,443 children, and 7467 mothers, a total for the season of 27,826. The seaside hospital at New Dorp during the same period has accommodated 668 infants, 900 children, and 688 mothers, making a total of 2256. The disaster to the *General Slocum,* the pleasure steamer which was burned in New York Bay with fearful loss of life, had the result of decreasing the number of persons carried on the daily trips of the floating hospital.

RADIOACTIVE wool—*i.e.,* cotton-wool which has been submitted to the action of radium emanation—is convenient for easy distribution over the body when packed in hermetically sealed jars, loses its radioactivity very slowly, and can be sent to any distance desired. From a few milligrammes of radium a large quantity of wool may be prepared, and thus widely extend the use of a small amount of radium, whose cost is so great as to interfere with its wide-spread use. The effects of the radium emanation and of the direct action of the radium are in all probability the same. Radioactive wool, therefore, may become a stock pharmaceutical preparation.

THE American White Cross First Aid Society, chartered by the State of Illinois, took definite form as a national organization December 2, 1904, at a meeting of the incorporators, held in the office of Dr. Charles Adams. Dr. Nicholas Senn acted as chairman. The organization being national in character, it was decided to ask President Roosevelt to name its president. Other officers who were selected and have accepted follow: Vice-presidents, Mrs. Potter Palmer, Mrs. R. P. Crane, and Dr. J. B. D. Irwin; surgeon-in-chief, Dr. Nicholas Senn; chairman of the Board, Dr. John B. Murphy; superintendent, Edward Howe; treasurer, F. T. Haskell; secretary, Mrs. M. A. Hines.

THE fourteenth Congress of the Italian Society of Internal Medicine, which was held this year at Rome, came to a close on October 29. It was decided that the congress should be held next year at Genoa. The subjects chosen for discussion on that occasion are: (1) The etiology of malaria, to be introduced by

Professor Guido Baccelli; (2) surgical intervention in gastro-intestinal affections, to be introduced by Professors Maragliano and Queirolo; (3) anemias of parasitic origin, to be introduced by Professor De Renzi. Reports on the progress of diagnosis and therapeutics will be presented by Professors Silvestrini of Camerino and Baccarani of Modena. Professor Baccelli was unanimously reëlected president.

It will be surprising, says the *London Chronicle,* if the remarkable weight and number of names practically subscribed to the cause of cremation within the past few months—names like those of Spencer, Edwin Arnold, Leslie Stephen, Watts, Henley, and Antoinette Sterling—are not some day noted as almost marking an epoch by the historian of what promises to be the method of the future. The Roman Catholic Church, as is well known, still refuses its last rites to those who thus defy one of the dogmas of the Nicene and Athanasian Creeds, and students will be interested to learn the fate of the petition just sent by the Berlin Cremation Society to the Pope, wherein not far short of 10,000 persons pray for the abolition of the Church's official disapproval thus expressed.

Dr. W. A. Kuflewski, of the Chicago School Board, has, we learn from a contemporary, presented resolutions to that board prescribing new methods for sweeping and cleaning public schoolrooms, claiming that the health of every pupil is daily placed in jeopardy by the system now in use. He suggests the following recommendations: That the floors of all schoolrooms be covered with sawdust wet with a solution of bichloride in the proportion of 1:4000, and then thoroughly swept. That all windows shall be wide open during the sweeping and cleaning of schoolrooms, provided the weather will permit. That all blackboards be wiped off with wet sponges to prevent the spreading of the chalk dust, which is exceedingly injurious to the lung tissues. That all furniture and woodwork be wiped off at least once a month with a solution of bichloride. That all windows and doors be left open during intermission, except in inclement weather. It is thought that these recommendations will be adopted by the Committee on Buildings and Grounds.

The annual meeting of those officially interested in the sanatorium movement in Germany was held at Berlin May 20, 1904, in the main hall of the parliament buildings, says the *Journal of the American Medical Association.* It was announced

that there are at present sixty-nine sanatoria with 5800 beds for working people insured against sickness. In addition there are twenty-five private sanatoria which receive these patients. Nine more are in process of construction and a number are projected. To date, thirty millions of marks, or about $7,500,000, has been spent for sanatoria for pulmonary affections. The central committee has spent about $300,000 for the same purpose. It was proclaimed that the antituberculosis dispensaries, with medical and hygienic supervision of the patients at their homes, are as important as the sanatoria in the campaign against the disease, but they must act in coördination with other institutions, sanatoria, etc. Berlin is planning a system of such dispensaries throughout the city, all under one management, with special attention to tuberculous children. Funds have already been partly provided for this purpose by the Departmental Sickness Insurance Company. It was explicitly stated that these special dispensaries must not be connected with a polyclinic, nor encroach on the sphere of the physician in any way. Wolff described how the polyclinics are already doing work that could be transferred to a special dispensary to the advantage of all. A school sanatorium is projected by the Charlottenburg city authorities to be open all the year.

The Bulletin of Chicago's Health Department states that as a contribution to the labors of the New York Pneumonia Commission the director of the laboratory, Dr. J. F. Biehn, reports to the commissioner that he has recently confirmed experiments made during a number of years, conclusively showing that the cause of pneumonia is a mixed infection. Rabbits injected intravenously with the sputum of a single healthy person fail to develop pneumonia; injections with the mixed sputum of two or more healthy individuals never fail to produce a typic pneumococcus infection. These results demonstrate, among other things, the wide diffusion of the pneumonia germs; they are present in the secretions of the mouth and throat of the vast majority of healthy individuals, usually lying dormant and inactive. Mixed with the germs of others they develop the disease. The practical point for prevention is the necessity of avoiding all unnecessary contact with the pneumonia patient, and the further necessity on the part of other members of the family, nurses, and attendants for sterilizing their throats during the course of the disease. Dr. Biehn has been requested to submit a detailed report of his work to the Pneumonia Commission.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Surgical Diseases of the Sigmoid.

H. D. Niles (*New York Medical Journal*, Dec. 31, 1904) says that the various pathological changes to which the physiological functions and anatomical structure and relations of the sigmoid render it especially susceptible may be regarded as successive stages or steps of the same morbid process, rather than so many different diseases.

An impartial study of these various successive pathological changes that precede, accompany, and follow inflammatory obstructive and malignant diseases of the sigmoid furnishes convincing evidence of how little we can reasonably expect of medical treatment, and how much we must rely upon timely operative interference to correct pathological conditions in this region.

Advanced malignant disease of the sigmoid is always preceded by pathological processes which we should strive to recognize early and correct by timely operative procedures.

Acute obstruction due to volvulus (unless relieved promptly by inflation of the rectum with water or gas) is always an indication for operative interference. Torsions of the bowel with partial or complete stricture usually demand operative interference. All inflammatory or necrotic processes that include the peritoneal coat of the gut, with or without angulation or stricture of the bowel, should be regarded as surgical conditions.

The known frequency of cancer and all forms of intestinal ulcerations in this region, the occasional occurrence of volvulus, a practical consideration of the anatomical structure and relations of the sigmoid, combined with the lessons gleaned from a limited number of clinical experiences and post-mortem examinations, all tend to confirm the belief that inflammatory lesions and obstructive distortions of the sigmoid are by no means rare, and that their rational treatment should be based upon the surgical conception of the conditions.

It is true that the history of sigmoid surgery, up to the present time, is not a long record of diagnostic triumphs and brilliant operative procedures invariably producing perfect results. But it is equally true that the fundamental principles of surgery and

pathology hold as good here as in other parts of the abdominal cavity, and when with greater experience and more mature judgment we learn how to apply these principles in the management of sigmoid disease as successfully as we already do in appendicitis, cholangitis, diseases of the stomach and uterine appendages, we may reasonably expect to secure proportionately as good results.

Treatment Immediately Before and After Abdominal Section.

At a recent meeting of the Southern Surgical and Gynecological Association, L. S. McMurty (*Medical Record,* Dec. 31, 1904) read a paper under this title. He said the general indications for preparatory treatment in cases of abdominal section are to cleanse the alimentary canal thoroughly without violent disturbance or exhaustion; to put all the eliminative functions in the best possible condition; and to favor in every way a tranquil state of mind and body. More than a year ago he became satisfied that to put the patient to bed for three days or even longer, as was practiced by many, is not the best course for preparatory treatment. There is a positive advantage in having the bowels cleaned out in a relatively short time, as the patient is not relaxed by purgation, and is less prone to suffer from toxic changes. Prolonged and irritating catharsis increases the nausea and vomiting of ether and chloroform anesthesia. A prolonged period of preparatory treatment impairs the patient's strength and depresses the nervous system. Sterilization of the skin from a bacteriological standard is impossible, yet mechanical cleansing will for practical purposes free the skin of all active germ action and provide for immediate primary union of wounds. In the effort to accomplish this the important fact has been overlooked that the unbroken skin is endowed with a power of resistance to the activity of its own and other germs; but when the epidermis is cracked, denuded, and broken by irritating germicides and scrubbing with hard brushes, this natural resistance is impaired and infection occurs. Mechanical cleansing will remove germs readily from smooth and unbroken cutaneous surfaces. For these reasons the brush and chemical germicides should be discarded and only soap and water and alcohol used, applying these with gauze instead of the brush. In the after-treatment only the most simple course is necessary in the average cases. The routine use of

purgatives is to be avoided. The patient should be allowed to move about in bed freely, and should be given water as soon after operation as it can be retained.

The Treatment of Varicocele.

Dudley Tait (*California State Journal of Medicine,* December, 1904) says that in civil life varicocele is not looked upon as of moment, and it can be truly stated that, excepting in applicants for the army and navy or for positions in some public departments, operations are very seldom necessary, or even justifiable.

In the military and naval circles of this country alone much importance is attached to varicocele, and the expediency of its treatment by operation was not long ago urged in a widely circulated report emanating from the office of the surgeon-general. Hence the vast number of such interventions in military hospitals. However, the high character of the recent work of the medical department of the United States army amply compensates for the above egregious blunder. In the great armies of France, Italy, and Belgium, varicocele operations are of great rarity (Dardignac).

The treatment of the vast proportion of varicoceles in sane individuals calls for nothing more than the temporary use of the suspensory and some local hydrotherapeutic measure.

A New Operation for Varicocele.

J. Vince (*British Medical Journal,* Dec. 10, 1904) describes a novel procedure for the radical cure of varicocele which he has practiced with good results in the course of the past four years. Opposed to the practice of venous resection, except in cases of very large varicocele, and objecting to free removal of the scrotum on account of the risk of hemorrhage, this surgeon has been led to rely mainly on partial resection of the cremaster. This, he points out, is the suspensory muscle of the testicle, the contraction of which approximates the gland to the pubes and thus facilitates the return of blood. Whilst elevating the testicle it compresses the whole surface of the venous plexus, and by this direct pressure drives the blood toward the pelvis. By shortening this muscle the surgeon will not only assist the useful effect of its contraction, but will also suspend the testicle in a good position.

The following are the different stages of the author's operation: Incision of the integument from the external inguinal opening to the upper pole of the testicle; longitudinal section of the fibrous sheath of the cord over the same; longitudinal section of the exposed cremaster and isolation of the spermatic cord, which is held over the outer side of the scrotum; the cremaster having been compressed by two long forceps applied at a distance of about 6 centimeters from each other, the whole of the intervening portion of the muscle is cut away; the two margins of the resected cremaster are brought together by a continuous suture and the spermatic cord is replaced over the shortened muscle; the margins of the incised fibrous sheath and of the wound in the skin are brought together by sutures. The cremaster, the author points out, varies in thickness in different subjects, but is always developed to a degree permitting its recognition.

Urethral Stricture.

F. S. Watson (*Boston Medical and Surgical Journal,* Dec. 8, 1904) says that the meatus must be cut to a caliber of two millimeters larger than that of the normal urethra previous to properly carrying out any form of treatment. Internal urethrotomy yields the most permanent results of any method, and for stricture of the anterior urethra, irrespective of character, is the operation of choice. All resilient, intractable, non-dilatable, and impassable strictures of the bulbomembranous or membranous urethra are best treated by external perineal urethrotomy. With the exception of these, all strictures so situated are best treated by gradual dilatation, unless during its course constitutional disturbances of importance arise, in which case it is safer to divide them at once by external perineal urethrotomy. Divulsion and electrolysis are methods not to be commended.

Pyloric Stenosis in Infancy.

H. Shaw and A. Elting (*Archives of Pediatrics,* December, 1904) says that pyloric stenosis in the infant is of much more frequent occurrence than is commonly supposed. Medical treatment of these cases has proven uncertain and unsatisfactory. Surgical interference should be practiced before the strength and vitality of the patients have become seriously reduced. Either pyloroplasty or anterior gastroenterostomy is the operation of choice.

MEDICINE.

The Influence of Small Injuries on the Localization of Tuberculosis.

E. Salvia (*British Medical Journal,* Dec. 17, 1904) says that slight and repeated trauma over the liver carried on only for short periods of time predisposes the hepatic tissue to permit of a distinct localization of tuberculosis with the formation of large, rapidly-growing nodules surrounded by smaller microscopic tubercles, a manifestation of the disease which is very uncommon in animals injected with tubercle bacilli, but not exposed to traumatism. The origin of such tubercle is clearly due not to the existence of hemorrhagic foci, which are very rarely met with, but to less obvious disturbances of the lymphatic circulation. In the thin, flat, spongy ribs such trauma always causes an evident localization of tubercle, which, however circumscribed it may appear, always involves the whole thickness of the bone, usually extending to the pleura or the subpleural tissue. Traumatism applied to the ribs clearly diffuses itself to the subjacent lung, as is shown by the greater number and more rapid growth of tubercles in the pulmonary area nearest to the injured rib. In the bones of the limbs, and especially in their articular extremities, no localization of tubercle results from slight trauma. If at the same time as the injection is made a joint is exposed to slight chemical injury, there results an extensive localization of tubercle, limited, however, to the soft tissues of the articulation.

Pus in the Nose.

George L. Richards (*Medical News,* Dec. 24, 1904) in discussing this occurrence says:

Clear the nose of all visible sources of obstruction, especially polypi, which easily grow or are maintained wherever and whenever surfaces are bathed with pus.

Examine the teeth and see whether there is anything in the way of probable dental origin of sinus trouble.

With the nose carefully cleaned, endeavor to ascertain if possible by inspection whether the pus seems to come from the antrum or from the frontal sinus, or from various points in the ethmoid cells.

If the apparatus for the same is at hand, try transillumination

not only for the antrum but also for the frontal sinus as well. Make an exploratory puncture of the antrum in the manner I have already described. If the antrum is free, explore the frontal sinus for the pus; try to wash out with the cannula, or to pass a probe if possible. If not, next remove the middle turbinate. If the antrum contains pus endeavor to cure it by washing out for a reasonable length of time. Failing in that do a radical operation. Remember that the better the drainage the faster the cure, and do not content yourself with a small pin-hole opening made by a small dental drill through a root cavity.

If the pus appears to come from the frontal sinus, wash it out with a cannula if possible, pursuing this treatment a reasonable length of time, and being guided as to the question of a future operation somewhat by the feelings of the patient; somewhat by the annoyance of the discharge; somewhat by the chronicity of the case, remembering that the frontal sinus is a simple, large, irregular cavity, that it may communicate with one or more of the anterior ethmoidal cells, and that the operation, while not of itself especially serious, may mean a long and more or less prolonged course of after-treatment. Do not fail to do it, or have some one else do it, in case it seems indicated.

Where there are several empyemata it is better to clear out the nose as thoroughly as possible, and then under ether do the operation on all the cavities at once.

Treatment of Inflammation of the Abdominal Aorta.

L. F. Appleman (*American Medicine*, Dec. 10, 1904) reviews the usual symptoms of this condition: (1) Enlargement of the vessel, perceived on palpation, with pain radiating along the course of the iliac vessels; (2) relaxation of the aorta and its possible displacement by the exploratory hand; (3) incurvation of the aorta (Potain). Various secondary symptoms are also manifested. Another sign which he considers particularly valuable is arterial hypertension in the feet. In his experience this hypertension was from 1.5 to 2 centimeters of mercury higher than the radial tension, and in some instances even higher. Normally, the arterial tension in the feet is from 2 to 3 centimeters of mercury lower than the radial tension. The disease is frequently terminated by spontaneous cure, although sudden death has resulted from rupture of the artery. Treatment has much to do with the favorable outcome. In the first place, rest in bed should be insisted upon. Hot compresses should be applied to the abdomen. In

the very acute cases leeches or blisters tend to relieve the condition. Hot baths should be given for half an hour every other day. When there is irritation, with exaggerated epigastric pulsations and more or less pain, the following is recommended:

Ammonium bromide .....2 Gm. (30 gr.).
Infusion of valerian .....125 Gm. (4 oz.).
Wine of opium .....10 drops.

This is to be repeated according to effect.

The Degenerative Changes in the Myocardium which Give Rise to Serious Cardiac Disease.

Raymond Clark (*Brooklyn Medical Journal,* December, 1904) says that in the early course of toxic diseases, sepsis, and cachectic conditions, acute parenchymatous myocarditis is more than apt to develop; that should the toxemia continue the cloudy swelling usually develops into a fatty degeneration.

Persons suffering from fatty parenchymatous degeneration of the myocardium should have their blood-pressure watched very carefully so that it may be kept low.

Sudden cardiac exertion or sudden rise of blood-pressure is prone in especially fatty degeneration to cause acute dilatation of the heart, resulting either in death or serious cardiac disease.

In all the autopsies of fatty degeneration and infiltration the valves were in a normal state; this is an important factor to be remembered in making diagnosis of cardiac lesions.

Fatty hearts are normal or under size generally.

Fatty hearts often are associated with atheromatous changes and cerebral apoplexy.

Nephritis or poor renal elimination is prone to produce fatty degenerative changes.

Chronic diseases which cause an interference with the proper oxidization of the blood cause fatty degeneration of the myocardium.

The Specific Causes of Scarlet Fever, Measles, Varicella, etc.

P. M. Neviadomsky (*Russk. Vratch,* No. 33, 1904; *Archives of Pediatrics,* November, 1904) makes a remarkable announcement and publishes a preliminary report of his surprising discoveries. He has found the specific microörganisms of scarlet fever, measles, chicken-pox, smallpox, and typhus fever.

The germs of scarlet fever and measles are somewhat similar, but distinguished by important morphological and biological features. They are entirely different from those "discovered" by predecessors.

The microörganism of chicken-pox has been found to differ from that of smallpox, thus settling the question of identity of these diseases.

On the other hand, smallpox appears to have the same specific germ as vaccinia and varioloid. Hence these three are manifestations of one disease.

A detailed report is forthcoming in the near future.

Significance of Trichomonas in the Stomach and Intestines.

Rosenfeld (*Deutsche med. Wochenschrift,* No. 47) found trichomonas in the empty stomachs of five patients suffering from gastric carcinoma, and also in one case of alcoholic gastritis. The author believes that this one case should not be considered as evidence against his opinion that the presence of trichomonas in the stomach is suggestive of carcinoma, especially when other symptoms are present to support the diagnosis. In infusorian diarrheas he does not attribute them to the parasite, but believes some other cause to be the factor.

Can Syphilis Virus be Filtered?

Klingmiller and Baermann (*Deutsche med. Woch.,* No. 21) attempted to filter the virus of syphilis procured from fresh primary lesions through Berkefeld candles which had previously been tested, and conclude from their results that the infection will not pass through, showing that the etiologic cause of the disease can be seen with a magnification of our present microscopes. The authors attempted to infect themselves with the filtered material, but were unsuccessful.

The Source of the Blood Plaques.

Priesch and Heim (*Virchow's Archiv,* Bd. 78) formulate the results of their experiments on the origin of the blood plaques as follows: The blood plaques are degenerated and throw off nuclei of the embryonal blood cells. The nucleated red cells under normal conditions remain at their point of origin until it is possible

for the nucleus to leave the body of the cell. The red cell then enters the circulation and throws off the nucleus, where it is found and termed a blood plaque.

THERAPEUTICS.

Roentgen Rays in the Treatment of Leukemia.

George Dock (*American Medicine,* Dec. 24, 1904) says that under treatment with Roentgen rays some cases of leukemia undergo marked change for the better. The leucocytes fall to normal numbers and sometimes show no more pathologic cells, the red blood-corpuscles improve, the enlarged spleen and lymphatic glands resume normal proportions, the general health seems restored. In some cases the effects are imperfect.

In no case has observation been carried out long enough to speak of cure. In several cases death has occurred while the symptoms seemed to indicate improvement. The mode of action of the Roentgen rays is not known. It probably consists in affecting the tissues that produce the pathologic leucocytes, either directly or more probably through the production or setting free of substances that effect cell formation, or degeneration, or chemotaxis, or all of these processes; but further investigation is necessary. At present the improvement must be considered functional and not affecting the original cause, nor in a permanent way the morbid histology of the disease. The improvement of the red blood cells may be due to general stimulation of nutrition, in which suggestion may have a part, or by diminution development of red cells as suggested by Ahrens.

Though the change seems a functional one, it is possible that treatment in very early stages may be more effective than it has hitherto been.

Roentgen ray treatment of leukemia is dangerous on account of the usual risk of dermatitis and burns, but probably also on account of toxic processes as yet impossible to explain. No stronger claims can be made for it than can be made for arsenic and certain serums and bacterial toxic substances, but it may prove more certain in its action than arsenic, and can be more readily applied in practice than the injection methods. Careful observation and recording of all cases in which the treatment was followed promise advances in our knowledge of leukemia, with the possibility of gains in practical therapeutics.

No special rules can be laid down at present for treatment

with Roentgen rays. Great care should be taken to avoid burns. Methods should be as fully described as possible in each case; the blood should be carefully examined as fully and as frequently as possible; and if possible urine examinations should be made, to throw additional light upon the metabolic changes.

Enuresis and its Treatment.

J. Ulmann (*New York Medical Journal,* Dec. 31, 1904) recommends the use of massage locally to remedy the weakened and insufficient action of the detrusors and sphincter vesicæ. The movements are as follows:

1. The rectum is freed of feces, and massage is applied by means of the index-finger to the sphincter vesicæ. The idea of this procedure is based on an assumption of a relaxed condition of the sphincter vesicæ. The child lies in the lithotomy position, and with the index-finger in the rectum the sphincter vesicæ is gently tapped by the operator for one-half to one minute.

2. A deep circular massage is applied over the hypogastric region for two or three minutes.

3. The patient lying in the dorsal position, with the knees tightly drawn together, is told to resist while the knees are drawn apart; and with the knees widely separated he is asked to resist while they are drawn together. The same resistant adduction and abduction movements are also employed with the legs. These movements occupy about two minutes.

4. The patient standing against a wall or door crosses and recrosses one thigh over the other for a period of five minutes.

5. The patient is next taken across the knee, and with the side of the hand the lumbar and sacral regions are sharply tapped very frequently by the operator, thus giving a vibratory sensation.

In addition, as an excellent adjuvant, especially for its mental effect, electricity may be employed.

Serum Treatment of Typhoid Fever.

M. Einhorn (*British Medical Journal,* Dec. 10, 1904) reviews the subject of the serum treatment of typhoid fever, and has himself treated by this means ten cases of the disease. The particular form of serum used was Jez's antityphoid extract, which is claimed to be a specific treatment for typhoid and an aid to diagnosis. It is said, also, that Jez's extract can be given uninter-

ruptedly throughout an attack; that it leads both to a lowering of the temperature and strengthening of the pulse; that it shortens the duration of the attack and diminishes or absolutely neutralizes the action of the typhoid toxin. Einhorn gave the serum for the most part subcutaneously in doses of 6 to 12 cubic centimeters daily until the temperature remained below 38° C. Occasionally he gave it in smaller doses by the mouth. The injections were made as soon as the diagnosis was established beyond doubt, in no case earlier than the ninth day. Seven of the ten cases gave a positive Widal reaction, and the remaining three presented all the other signs of typhoid, such as swelling of the spleen, roseola, etc. They were either severe or moderately severe cases—one was complicated by otitis media and two by double pneumonia. All the cases recovered, and the author arrived at the conclusion (1) that the serum treatment did not in most cases cut short the attack; (2) that on the first or second day after the injections were first made a remission of fever set in—about 1° to 2° greater than before—and that the remission was of longer duration; the general condition and especially the sensorium and nervous symptoms showed marked improvement, so that sleeplessness, restlessness, headaches, and delirium almost completely disappeared. It is possible that even better results might have been obtained if the serum treatment had been begun earlier in each case. The only side effects of the injections were that in two cases a transitory erythema was observed at the site of the injection, and in a third case a rigor followed the injection.

The Nasal Treatment of Asthma.

Alexander Francis (*Journal of the Royal Army Corps,* London, November, 1904) has from his experience drawn the following conclusions: (1) That asthma is due to reflex spasm of the bronchial tubes. (2) That the irritation may originate in the nose, as may be inferred from (*a*) the intimate association between hay-fever and asthma; (*b*) the very common record of excessive sneezing at some period in the previous history of an asthmatic patient; (*c*) the not infrequent alternation between asthma and sneezing. (3) That asthma is not directly due to any mechanical obstruction of the nasal passages and is not commonly caused by any gross nasal lesions. (4) That some part of the nasal apparatus has a controlling influence on the respiratory center; or there is in the nose, as it were, an agency through which the afferent impulses must pass.

Absorbing Power of the Skin.

Schwenkenbacher (*Archiv für Physiologie*), basing his experiments on the theory that substances that have a solvent power on fat have a great penetrating property, showed that the skin of white mice and pigeons was easily penetrated by dilute alcohols, ether, chloroform, aldehyde, ketones, phenol, cresol, guaiacol, resorcin, pyridin, anilin, acetanilid, antipyrin, water alkaloidal bases, oxygen, carbon dioxide, ammonia, boric acid, and the different gases. He was unable to determine that salts, including those of the alkaloids, carbohydrates, colloids, and glucosides, were absorbed in this way.

Potassium Iodide in Arteriosclerosis.

Miller and Ianada (*Deutsche med. Wochenschrift,* No. 48) in their experiments on the normal showed that potassium iodide reduces the viscosity of the blood. With the reduction of the friction the rapidity of the blood stream is increased, especially in the capillaries, where good results in arteriosclerosis of the brain are evidenced by the administration of this drug. During the administration of potassium iodide acid foods and drinks should be prohibited, as also should beer; it is advisable to give alkalies in conjunction with it.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

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Eye-strain.

A. L. Ranney (*Medical Times,* January, 1904) says that a knowledge of the possible effects of eye-strain upon mental and physical development cannot be too widely disseminated.

The direct causal relationship between "eye-strain" and nervous diseases is too well established to-day to require further proof, or even to justify further discussion.

The modern methods of testing for anomalies of adjustment of eye muscles are the only ones that can furnish us with scientific and accurate information. The time has happily passed when any oculist can instruct a patient to simply follow some object held before the eyes with the eyes, and then on that test alone give

a final decision as to whether maladjustment of the eye muscles exist or does not exist. Two decades ago this was about all that anybody knew about eye muscles. To-day the mere tyro would not dare commit himself on such tests.

The cure of the disease to-day is intelligently based on the search for its cause rather than on an indiscriminate use of drugs; and the prevention of diseases is rapidly becoming more important to the medical mind and also to the laity than its cure.

The detection of "eye-strain" in youth is an important step in preventive medicine, and the arrest of a nervous leak may save many a child from a permanent breakdown when an adult.

The study of facial expression and head posture is destined to become an important aid in diagnosis.

The governing boards of institutions for the feeble-minded, the epileptic, and the insane will sooner or later be compelled to investigate more carefully and earnestly than in the past the eye conditions of their inmates. The prescribing of glasses to correct errors of refraction has always been considered by the writer as vitally important in the treatment of eye-strain. It should always be done most accurately and scientifically. It is imperative to do this first, and to have patients wear glasses for refractive errors constantly for some time (whenever marked muscular errors exist), in order to determine if they are modified by the refractive correction.

Refractive errors may cause "apparent heterophoria" in a certain proportion of cases; and proper glasses may sometimes modify "genuine heterophoria." There is indisputable proof that genuine heterophoria may coexist with refractive errors (as an independent source of eye-strain), and it may also be found in cases where absolutely perfect refraction exists.

Eye-strain cannot be recognized too early in youth. Its scientific investigation by modern methods and its radical correction may favorably modify both physical and mental development.

The neglect of an existing eye-strain may in time allow it to exhaust the reserve nerve capital of the sufferer and produce untold ills both of the body and mind. No child should ever be allowed to begin education until it is known that its eyes are properly fitted for the work.

Legislative enactment should, and surely will in time, compel an eye examination of every child before it enters the public schools.

Teachers should also be instructed in the rudimentary steps of vision testing.

The Treatment of Purulent Conjunctivitis.

Myles Standish (*Journal of the American Medical Association,* Dec. 17, 1904) says that the newer silver salts are more easily applied, safer to use, and produce better results than nitrate of silver. In cases of ophthalmia neonatorum either protargol or argyrol is an entirely satisfactory agent. In cases of gonorrheal ophthalmia in the adult, the results obtained when treatment is begun early are approximately the same with either preparation, but when once the cornea is involved, protargol appears, in these cases at least, to afford a better outcome. The application of cold during the stage of swelling in gonorrheal ophthalmia is a dangerous procedure and should be abandoned.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

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The Vomiting of Pregnancy.

J. M. Martin (*British Medical Journal,* Dec. 10, 1904) in discussing this affection says that there is simple nausea, with or without actual emesis, of physiological and reflex origin, a symptom only due to hyperemia of the developing uterus, vessels, and nerves in a confined cavity.

Malposition of the uterus, if the cause of so many troubles in ordinary conditions of health, must be a graver trouble in the pregnant woman, and thus increases the vomiting of pregnancy and consequent malnutrition and emaciation.

In the absence of uterine troubles and organic disease hysteria plays an important rôle, and usually defies all therapeutic remedies. The writer emphasizes here that if operation should be deemed necessary, it should be carried out under thoroughly antiseptic conditions and anesthesia.

It is probable that in pregnancy, with its increased arterial tension, and where lung and cardiac complications exist, gastric irritation may be set up and continued in consequence of the special toxemia, which at present is only suspected, but which in further researches, the author feels convinced, will be scientifically proved.

In conclusion, the better attention to health and the greater

inclination to athletic exercises and hygienic surroundings of our present-day girls may naturally come to counteract the artificial existence which has continued for so many years in our child-bearing population.

Carcinomatous Papillary Ovarian Cystoma.

D. Levi (*British Gynecological Journal,* November, 1904) has from his study of the literature of the subject drawn the following conclusions: Carcinomatous cysts of the ovary may develop at any period of life; they originate in the cells of the tubes of Pfluger, as do also the papillomata of the germinal epithelium of the ovary; histologically cancerous cysts are difficult to distinguish from papillomata, but can be recognized when masses of atypical epithelial elements are found; a papilloma which at first has a benign course may degenerate into a carcinomatous form; the rupture of a cystic tumor into the peritoneal cavity may pass unobserved owing to the absence of definite symptoms; the liquid of carcinomatous cysts apart from suppuration is not of a septic nature—at all events the germs it contains are not pathogenic; the prognosis of every ovarian tumor ought to be guarded, because it is not possible to exclude with any certainty the possibility of malignancy; the treatment should be the operative removal of all that is suspected; in recurrent and in very advanced cases complicated with numerous metastases it is better not to interfere, as the operation may have a fatal result.

Vaginal Caesarian Section.

C. J. Miller (*Medical Record,* Dec. 31, 1904) says that in severe eclampsia, when the woman is unconscious between the convulsions, the cervix rigid and elongated, and delivery imperative, it is always perferable to perform vaginal section; and, under proper surroundings, that may be preferable to the use of metal dilators or manual dilatation. In severe cases of accidental hemorrhage, when the cervix is closed, it is safer than the other method of accouchement forcé, owing to the rapidity with which the uterus can be emptied, and should be given preference over the primal hysterectomy, which is generally advised. It may be used in other conditions when Cæsarian section is indicated, as contracted pelvis or dystocia arising from maternal or fetal portion. It has not the disadvantages of an abdominal

operation; the peritoneum need not be opened unless hysterectomy is to be performed for malignancy, and there is less shock than follows abdominal operations. It is more dangerous than attempting to deliver either by version or forceps when the os is not fully dilated, if done under strict aseptic precautions.

Croquet Ball Thirty Years in the Vagina.

A. Orloff (*British Gynecological Journal,* November, 1904) reports the case of a woman of sixty-six who was admitted into the hospital suffering from pains in the hypogastrium and vagina and a fetid discharge. Married at twenty-six, she had her first child at thirty-four, and afterward suffered from severe pains in her lower abdomen due to prolapse of the womb. These pains became much worse after her second confinement, and the patient then herself introduced a croquet ball into her vagina. From that time the weight and pains ceased; the functions of the bladder and rectum were not disturbed. On examination the vagina was found in a condition of senile atrophy; the finger impinged upon a round and hard body. The urethra admitted an ordinary sound, the urine was clear, and there was nothing abnormal about the rectum. On account of the senile atresia of the lower part of the vagina it was necessary to remove the round ball piecemeal, though it was quite movable in its place. A pronounced colpitis with some superficial ulceration was cured in five days. The ball had been more than thirty years in the vagina without causing any serious lesion. The wood of which it was made seemed in no way changed.

Stitch Abscesses After Uterine Fixation.

A. Mackenrodt (*British Gynecological Journal,* November, 1904) recently exhibited at the Berlin Obstetric and Gynecological Society a uterus in the walls of which were many abscesses. One communicating with the cavum uteri had for a long time caused a hematopurulent discharge. The uterine tissue felt nodular, as if from myomata. The phlegmonous inflammation and abscesses had their origin in the stitches of an antefixation performed by another surgeon for retroflexion. The kind of suture used could not be ascertained. The condition could not have been due to a perforation during curettage preliminary to the antefixation; the rupture of the large abscess communicating with

the cavum uteri had occurred at a later period. Mackenrodt had met with such stitch abscesses, causing most serious trouble in many cases, after various methods of antefixation and ventrofixation, and after the enucleation of myomata.

Cauliflower Growths of the Vulva.

A. Hellendal (*British Gynecological Journal,* November, 1904) on the basis of a case of elephantiasis tuberosa, one of elephantiasis condylomatosa, one of papilloma carcinomatosum, and ten of carcinoma vulvæ, operated upon, discusses the clinical and anatomical peculiarities of cauliflower growths of the vulva. He holds that considering their rarity the records of these tumors should be supplemented by drawings. Elephantiasis is, of course, recognizable by the great hypertrophy of the cutaneous and subcutaneous connective tissue. In conglomerate growths of condylomata acuminata the scantiness of such connective tissue, together with the hypertrophy of the papillary bodies, is striking. In papillary carcinoma evidence may be found in the atypical proliferation in the growths in the deeper tissues supported by the presence of cancroid cells. Every case must be submitted to microscopical examination, without which the diagnosis of these tumors is hardly possible.

Present Indications for Vaginal Hysterectomy.

Dr. Faure (*British Gynecological Journal,* November, 1904) gives the following indications: Vaginal hysterectomy may be resorted to in cases of small fibroma, of painful or incurable metritis, and exceptionally in inceptive epithelioma of the cervix in corpulent and aged women. On the other hand, it should be resorted to in cases of inversion and of prolapse when it is found desirable to remove the uterus, and it is absolutely indicated in cases of extensive, virulently septic periuterine lesions which persistently get worse and which colpotomy appears insufficient to cure, in cases of puerperal infection which do not improve under ordinary means of treatment, and in subacute pelvic peritonitis propagating itself toward the abdominal cavity.

THE MEDICAL AGE

Vol. XXIII. DETROIT, FEBRUARY 10, 1905. No. 3.

ORIGINAL CONTRIBUTIONS.

CANCER OF THE STOMACH—REPORT OF A CASE WITH GASTRECTOMY.*

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I report this case, not because of the result in this particular instance, but for the purpose of bringing to your attention some few facts in relation to cancer of the stomach which we must more clearly recognize and appreciate, in order that we may give to our patients all to which they are entitled.

Our first proposition, then, will be that cancer of the stomach is a surgical disease only, and not amenable to treatment by other means; secondly, that it *is* amenable to treatment by timely surgical intervention; thirdly, that the present status of surgery of the stomach demonstrates that the stomach is more easily reached and more rationally treated than cancer of the uterus, inasmuch as it is easier to include the lymphatic system of the stomach, through which cancer proceeds, than it is to remove the lymphatics of the generative organs; fourthly, the hemostasis in gastrectomy, of which I now speak specifically, is more easily or equally as easy of control as that of hysterectomy.

The accessibility of the stomach is far greater than was generally supposed, and in past years it has been neglected surgically, and has been more abused than the uterus medically. The technique in the hands of those thoroughly familiar with it is not difficult. The first thing we have to entertain in these cases is a diagnosis, which in its early stages is not wholly easy and free from possible error. Time and experience have demonstrated that, by the exercise of all means at hand, a quite certain diagnosis may be made; but should there be a doubt, it has also been fully shown by the Mayos that the patient is subjected to a little more

*Read before the Jackson County Medical Association.

risk by an exploratory incision, which makes palpation, and sometimes inspection, possible.

I fully agree with Mayo when he says that more than one-half of the diseases of the stomach will disappear when the light of an exploratory incision is let in upon them. Hail the day! For the general practitioner has too much to attend to now, and I fancy will welcome the relief from complex and ill-understood stomach-lore.

The diagnostic means employed, aside from exploration, which should properly be the last, may be summed up by, first, a history of the patient, as to his ability to take and retain food in the stomach; the use of the stomach-tube renders it possible to ascertain, with a pretty fair degree of certainty, whether the digestive functions are being properly carried on chemically, and as regards time for complete emptying of the stomach. It may not, and frequently does not, according to Mayo, fully decide the question of the presence or absence of carcinoma early in the disease, which in the stomach, as well as in the uterus, is the golden opportunity if we are to attack it surgically.

Not infrequently in this class of cases a differentiation, as between cancer and ulcer, may arise, cancer often being engrafted on an old ulcer. True it is that a frank, well-marked ulcer will generally be unmistakably labeled, but so uncertain are the chemical analyses of the stomach for cancer that those cases of ulcer unattended with free bleeding and the usual amount of pain may be mistaken or confounded in early cases. The later cases of carcinoma (and, unfortunately, at the present writing this is the class of cases we generally meet, because of procrastinating methods) are attended by tumefactions, and we are called upon to differentiate.

Among some of the growths we might have is a swelling, or, more likely, a cancer of the pancreas; a distended and elongated gall-bladder; a movable kidney, or spleen, possibly; tubercular deposits in the mesentery; cancer of the omentum; and variations in the location of malignant growth in the stomach itself, with modifications in symptoms, as in the case I have to report, which lead to possible confusion.

If we have a positive obstruction in the pylorus, in which location occurs, according to Mayo, 60 per cent of all cancers, we shall have little difficulty in arriving at a tolerably correct diagnosis; and if at the same time that we have obstructive symptoms we have added thereto a tumefaction, hard and nodular, we can scarcely be mistaken in calling it a cancer—at least if we have

associated with these physical symptoms evidences of stagnation and retention, with later vomiting, associated with great loss of flesh.

Pain is a very constant manifestation, but early may be simply a heaviness or fulness, such as frequently obtains in cases of indigestion, so that we cannot regard this symptom as in any special degree pathognomonic.

Blood changes are not of special value in the way of diagnosis, serving only to indicate in regard to the advisability of an operation. If the hemoglobin is found deficient, the anemia is often such as to preclude any considerable surgical intervention.

The leucocytosis does not have any special bearing in cancer. After giving due credit to all means suggested, we must fall back on the advice of Mayo Robson, that "in order to better our results we must explore, not to confirm but to make a diagnosis."

Now, as to the operation—a diagnosis having been made—what shall we do? Two operations, equally prominent, will engage our attention, viz., gastrectomy or gastroenterostomy.

Some, as von Mikulicz, Kronlein, and others, have been very positive in asserting that gastroenterostomy should only be employed when there is an obstruction of the pyloric orifice, in which cases much benefit will ensue; but, looking a little farther, and considering the facility and comparative safety of the two operations and the radical removal of necrotic tissue, with a highly probable increase of lease on life of from ten to eleven months (Robson), we must, I think, from all view-points, decide in favor of gastrectomy.

The deductions of Kronlein are:

1. Carcinoma without operation has a fatal termination in about one year.

2. Gastroenterostomy prolongs the life of patients suffering from this disease for about three months, on the average.

3. Gastrectomy, so far as it is followed by recurrence, prolongs life on an average about fourteen months.

The operation of gastrectomy in the hands of von Mikulicz and of Carle and Fantine has given a less mortality than gastroenterostomy.

Bearing in mind, then, the anatomy of the stomach, we observe that nearly all the lymphatics are located on the lesser curvature, only a few being found on the greater curvature, near the pyloric end; and the lymphatic stream of the cardiac end of the stomach, running from left to right, thus lessening the liability of speedy invasion of new tissue, after the principal lymphatics mentioned have been removed.

The hemostasis and anastomosis necessary to the operation are easy, and I believe we are justified in looking for most excellent results from this field of surgery. The prime requisite for success, however, lies in the perfect accord that should exist between the surgeon and general practitioner. The general practitioner sees the case first, and if he will coöperate early with the surgeon, I believe that much more than has been anticipated may be realized.

The case we have to report was a man of fifty-eight years of age, of German extraction, small in stature, weighing little more than 100 pounds at this time, having lost 45 to 50 pounds in the past two years. He was admitted to the University Hospital on August 24, 1904. For two years he had been complaining of stomach trouble, and received treatment at the hands of various physicians. He gave no history of vomiting before coming here, nor did he vomit while in the hospital. He said he had been badly jaundiced some months before. His pain was not excruciating, but quite constant; he was quite pale and bloodless and emaciated, able to eat but little, and always craving something out of the usual, or which he did not have, such as pork and beans, peas, sweet potatoes, blood pudding, Wienerwursts, etc.

Upon physical examination he presented nothing abnormal, until we reached the space just above the umbilicus or central hypogastric; there we were able to outline quite a mass, as large as half of a small orange, or larger, probably. While lying upon his back it had little mobility, and seemed to be in the region of the head of the pancreas. Having so few symptoms referable to the stomach, I am free to confess I thought it was most likely a cancer of the pancreas.

On the next day, however, while being visited by his physician, Dr. James, he was asked to turn to the right side. On doing so the mass slipped and fell entirely under the left lobe of the liver, away from reach by palpation. We then thought it could not be the pancreas, and not having any evidence of pyloric disease of the mesentery of the transverse colon; cancer of the gall-bladder, elongated and distended, or possibly a movable kidney; a movable spleen was also suggested; also tubercular disease of the mesentery of the transverse colon; cancer of the omentum, and cancer of the greater curvature of the stomach. The patient had no temperature, and the pulse-rate was good; urinary analyses negative; blood counts showed 10,280 white, 3,960,000 red, cells to the cubic millimeter. The hemoglobin test was not taken.

On September 5, after twelve days endeavoring by all means to improve his condition, and at the urgent request of his wife, we concluded to make an exploratory operation to determine the exact nature and location of the growth. Ether was the anesthetic, preceded by a hypodermic of ⅛ grain of morphine and 1/150 of atropine. Hot-water bottles were strapped to his limbs and over his heart, and three pints of normal saline solution was injected into the veins. An incision over the right rectus muscle was made, through which we were able easily to reach the tumor. During the manipulation of the tumor a hole was broken into it at a weak spot, and all effort at fixing it to the abdominal walls was futile, as the entire stomach wall was infiltrated and incapable of holding a stitch.

We were at once confronted with the necessity of an extended gastrectomy on a patient in an utterly unfit condition.

Not having strongly suspected that we had a carcinoma of the stomach, we had not washed it out, as we should have done, and therefore we found it filled with all that he had eaten for at least two weeks, which gave us no little trouble. A thorough irrigation of the stomach and further investigation showed us that from an inch and a half back of the pylorus (which was not involved) it was completely infiltrated with cancer, involving even the cardiac entrance of the esophagus. Not having a Kocher clamp, we tried to improvise by the use of hysterectomy clamps, covering the blades with rubber tubing. They served no purpose, so far as the stomach was concerned, cutting directly through its walls. More than seven-tenths of the stomach was removed, leaving simply the cardiac end of the stomach with which to build about the esophagus, and leave a flap of the cardiac end of the stomach for an anastomosis with the duodenum.

No difficulty was experienced in effecting a ligation of the blood-supply, and not over a tablespoonful of blood, all told, could have been lost. The stomach was adherent to the transverse colon and pancreas, but was readily separated, and is here shown in a much shrunken condition. The pylorus, as you may be able to observe, is not involved, and is reasonably patulous. The only explanation for his not having vomited must have been the almost complete lack of motility of the stomach from extensive cancerous infiltration. The duodenum was easily approximated and joined to the flap of the cardiac end of the stomach by Connell sutures.

The mechanical result in this case was indeed very gratifying in its appearance, and probably efficiency, had the patient pos-

sessed more strength and ability to stand an operation. We did not expect, however, that he would go off the table alive, but he did, living about three hours.

This case served to impress very forcibly upon those of us present at the operation the entire practicability of the procedure. Here, as in cancer, wherever found, we can only hope for satisfactory results by early diagnosis and early operation, which mean a thorough coöperation of physician and surgeon early.

I am indebted to Mayo Robson and Will Mayo for most of the ideas here set forth, and to Dr. Jabez N. Jackson, Dr. Howard Hill, Dr. S. C. James, and others for valuable assistance in this operation.

THERAPEUTICS OF X-RAYS.*

BY JAMES B. KINNAIRD, M.D., LANCASTER, KENTUCKY.

Permit me to thank your Committee on Questions for selecting me to present a paper upon the "Therapeutics of *X*-rays," and pardon me if the subject is not thoroughly treated. The limited time at my disposal has prevented me giving an exhaustive paper upon the subject.

From the beginning of time men have been seeking for remedies that may alleviate pain and prolong life. The animal, vegetable, and mineral kingdoms have been brought into requisition with this end in view. We have advanced year by year, decade by decade, sometimes slowly and at other times with leaps and bounds; still we have not discovered the elixir of life. Professor Loeb has startled the world by his recent experimentations, and has given electrotherapeutics a new impetus, that had already been set in motion by radiotherapy. It is not possible to prolong life indefinitely by any means at our command, but I think that years may be added to the lives of many disconsolate beings who have been awaiting the inevitable, suffering with malignant disease. We have in the *x*-rays an agent which has acomplished much in a class of inoperable diseases, and the future is pregnant with hope. Already many local and constitutional diseases have yielded to the *x*-light. While yet in its infancy radiotherapy has removed from the minds of the public that ancient dread of cancer.

Many experimenters have reported marvelous results from the use of the *x*-rays in the treatment of epithelioma, sarcoma, carcinoma, and lupus. The results obtained may only be tem-

*Read before the Kentucky State Medical Society at Paducah, Ky., May, 1902.

porary, but if relief can be given for only a short time much has been gained. If the results prove permanent we have an agent whose value cannot be overestimated. Many experimenters have observed that pain ceases when a diseased condition is treated by *x*-rays. Those who have been addicted to the use of opiates for the relief of pain in malignant diseases have declared that the exposures give prompt and ofttimes permanent relief. This effect is produced probably by benumbing the nerve supply. A general tonic effect results from exposures, stimulating the nervous system, improving the appetite, and assisting assimilation.

My experience with *x*-rays in the treatment of diseases has been limited. The first case treated by me came under observation last October, and although this case has been reported I shall give an outline of the treatment and its outcome. This case, supposed to have been lupus, was referred to me by Dr. Mays, of Lowell, Kentucky, for advice as to the advisability of having it cauterized. At my suggestion she began the treatment with meager hope of ultimate success. The treatment did not appeal to her as a rational measure, but she cheerfully pursued it for seven weeks, when she was dismissed cured.

This patient, a married woman, aged thirty-six years, about eight years ago had a dry, itchy scale appear above the left eyebrow, which in time became elevated and bleb-like, peeled off, and began to ulcerate. In spite of treatment it spread until it had reached the size one inch in width and one and a half inches in length, had eaten its way over the eyebrow, and was destroying the upper lid, with a decided tendency to dip into the postorbital region, there being a small, deep fistula extending downward and backward. Local and constitutional treatment had failed to check its advance.

I began by giving exposures ten minutes in duration, with her face eight inches from the Crookes tube. The face and head were shielded with rubber cloth, a perforation being left to correspond with the diseased surface, through which the rays were applied. After the fourth exposure there was noticeable a tendency to granulation, which continued uninterruptedly until cicatrization was complete.

During the first week I gave six exposures; second week three; third week two; fourth week two; fifth week two; sixth week two; seventh week three—making twenty in all, when the case was pronounced well. One month after the case was dismissed a small nodule appeared on the margin of the cicatrix, which yielded promptly to a few exposures.

The patient's general health was very greatly improved, and the facial neuralgia has not returned. Immediate relief from pain was experienced from a single exposure. During the course of the treatment a slight erythema, resembling a mild sunburn, appeared around the margin of the lupus, but there was no dermatitis.

The cicatrix resulting was unusually white, due probably to the destruction of the pigmentary layer of the skin. The color of the cicatrix is gradually resuming the normal appearance of the skin.

The second case that came under my care was a man aged eighty years, who had an epithelioma at the outer canthus of the right eye. Eleven years previously a small nodule appeared at this location, which in time broke down and began to ulcerate. It had been stationary for several years. At the time he first consulted me, December 11, 1901, it was half an inch in diameter, circular, deeply excavated, with indurated edges. There was a small nodule about the center of the lower lid one-fourth inch in diameter, and another on the nose, near the inner canthus of the right eye, one-half inch by one-fourth inch. Both were apparently in a condition for ulceration. There was a chronic conjunctivitis and slight ectropion. There was no indication of any specific lesion.

After a few exposures there was perceptible improvement. After eleven exposures, each of fifteen minutes' duration, extending over a period of thirty days, the epithelioma was entirely well, the nodules had disappeared, excessive lacrimation had ceased, and his conjunctiva was clear. In conjunction with exposures I gave him static treatment. When the case was dismissed he expressed himself as feeling better than he had for ten years. He returned home cheerful and hopeful, but unfortunately died three months afterward with heart failure. Up to the time of his death there was not the slightest indication of a recurrence.

I have under treatment a case of eczema which showed no tendency to heal from *x*-rays for a time, but a mild dermatitis followed, which has resulted in much benefit. This case, recently reported by me to the Central Kentucky Medical Association, I regarded as discouraging. Since that report was made a wonderful improvement has occurred. Even eczema should yield to this procedure. Some favorable reports have appeared in recent medical literature, and I believe that when the technique is better understood many forms of eczema will be treated successfully.

I have had under treatment four months a case of recurrent scirrhus in a woman fifty-one years of age whose right mammary gland and axillary glands were thoroughly enucleated two years ago by a very skilful surgeon. One year after removal of the glands a number of nodules appeared over the right sternocleido muscle and in the axilla. A second operation was done. Since that time numerous nodules have developed over the right pectoralis major muscle and epigastrium. Four months ago there was edema of the right arm with considerable pain. I began *x*-ray exposures at that time. Pain ceased, the edema disappeared, but the metastatic process continues. She has now an exasperating cough, for which I am using ozone generated by the static machine. Relief in this case can be only temporary.

The first indication of scirrhus was a small nodule in the mammary gland eight years ago, when I insisted upon having an operation done. Had an operation been done at that time the disease might have been eradicated.

At the present time I have a case under treatment, referred to me by Dr. Mann, of Nicholasville, Kentucky, which was diagnosed lupus. No microscopical examination has been made. It has the appearance of sarcoma, and the odor is very offensive. The discharge of pus, large at first, has been lessened very materially, while the odor has been mitigated. The patient is a woman seventy-one years of age, mother of eleven children. Eleven years ago a black wart followed a hen-peck on her left hand, which became inflamed, and in time began to suppurate. This spread over her wrist, thumb, and index-finger. She consulted a physician in another locality, who applied caustics, in consequence of which she lost her thumb and index-finger. This destruction of tissue may have been due to the disease. There was no return of the disease for a year, when an ulcer appeared on her left arm, then successively upon her face, lower lip, and left ear. Four years ago the right parotid gland became affected, broke down, and has continued to suppurate. When she came to me the parotid gland was enlarged to such an extent that it extended below the angle of the jaw, rendering mastication impossible; she had no appetite, was feeble, and scarcely able to walk. Now her appetite and digestion are good, and she can walk to my office without tiring.

She has had thirty-six exposures. The purulent discharge has decreased until now it is not one-fourth in quantity and is less offensive; the parotid gland has shrunken to its normal size; the nodules on her face have disappeared, and the one on the left

ear is undergoing atrophy. Her complexion, at first sallow, is now clear. Her general condition is improving, and instead of being despondent she is cheerful and contented. Her present condition is favorable, and treatment will be continued.

With all the cases thus far treated I have used the medium and high vacuum tubes, more especially the latter, and the results have been satisfactory.

Workers in this line are at variance as to which tube is to be preferred. Some contend that the best results are obtained from the high vacuum, others the low vacuum tube. If it is the light that cures, it makes very little difference which is used, for after all the light is only electricity. It is electrical energy that penetrates the tissues and brings about the results.

In making exposures I place the diseased surface at from two to eight inches distant, according to the case and frequency of the exposures. The distance should be regulated by the effect to be produced. When I began using *x*-rays as a therapeutic measure, I placed the tube at the maximum distance and shielded the healthy tissues by a rubber cloth, having a perforation corresponding to the size of the diseased tissue. Afterward I had made a short, wide-mouthed, tin funnel, flared sufficiently to protect the healthy parts, with apex two inches in diameter, within which I could slip perforated rubber diaphragms. These are made from stiff rubber sheets one-eighth inch in thickness, and can be cut any size required. If the diseased surface should be two inches or more in diameter the diaphragm can be dispensed with.

Sheet lead, pure tin, or pasteboard covered with tin-foil, or any poor conductor of *x*-rays, can be used. It is not necessary to insulate the shields, as was at first advised by Tesla.

For protection of the operator and patient Dr. Williams, of Boston, Mass., places the tube in a wooden box with an aperture controlled by different sizes of diaphragms to suit the case under treatment.

If the case is treated daily, I place the patient at the maximum distance of eight inches; if the disease is acute and of rapid growth, then I place the tube from six to eight inches distant. If the case is chronic and of long standing, the tube should be placed nearer. Good judgment is required in this as in every procedure.

No injury has been produced by me thus far. In one case I thought I had caused a severe dermatitis; however, a cessation of treatment for four or five days brought about a favorable

result. I have not had a burn either in radiography or radiotherapy.

Patients want immediate results, and if we listen to their importunities we are likely to do harm. I think we can accomplish by the static machine all that can be done by the Ruhmkorff coil with less risk and with less cost. The current can be better controlled when *x*-rays are made by the machine. The country physician to whom the electric current is inaccessible can use a good static machine and obtain the same results as his city confrères. The machine is less expensive, and can be used for general electrization as well as *x*-raying, while the coil is limited in its application. My machine is run by hand by day and by electric motor at night while the commercial lights are on.

Much harm may be done by reckless experimenters with Roentgen rays until the science of radiotherapy is accurately determined. This is true of all new methods and new therapeutic agents. All new procedures must pass through the crucible before their adoption. The errors of judgment and technique lead to improvement and to accurate knowledge.

It is the duty of workers and writers to not only report their successes but also their failures, that we may sooner learn whether or not the new procedure is to be of any practical utility. It seems that recent discussions in medical societies indicate that we are getting to the point where treatment by *x*-rays is a rational procedure, and that much can be expected from a proper application of the agent in suitable cases.

Several months ago skeptical editorials appeared in the leading medical journals; to-day they are more hopeful and less critical. The tendency hitherto has been to decry instead of praising this novel procedure.

X-ray workers are advising all who use this new agent to be accurate in their reports, to be perfectly honest in their statements, and to be careful in the use of the rays, so that no discredit may be brought upon the procedure and profession. There is great diversity of opinion yet as to the technique of *x*-ray work.

The use of *x*-light promises much in superficial malignant disease, and even in deep-seated internal cancers pain is relieved and much good accomplished. You may depend upon the relief of pain even though the disease is not eradicated.

For the treatment of all inoperable cases of cancer, eczema, rodent ulcers, and tuberculosis radiotherapy promises to fill a long-felt want.

Time of exposures should be governed by the nature of the

case, and should not be longer than from ten to twenty minutes at a sitting, according to the location and condition of the growth. If the growth is slow, the longer the exposure; if rapid growth, short exposure.

With a high resistance tube and with either a Ruhmkorff coil or an influence machine, beneficial results should become apparent in two weeks. If improvement is evident at the expiration of two weeks, then we can predict the ultimate result. If no improvement is apparent at that time the prognosis is bad.

Dr. Pusey says: "As a general proposition the use of *x*-rays should in my opinion be limited to those cases which for any reason it is inadvisable or impossible to treat by ordinary methods. In other words, until our experience with *x*-rays extends over a longer time, their use should be a reserve method of treatment: (1) In all cases of malignant diseases which have been operated upon there is reason to urge the subsequent use of *x*-rays as a prophylactic measure. (2) In all inoperable cases of malignant disease the use of *x*-rays should be tried. (3) In all such cases there is probability of relieving pain and a possibility of inhibiting the progress of the disease."

If it was satisfactorily proven that cancer is due to bacteria, we would contend that the *x*-rays kill the microörganisms, but the medical profession do not as a unit subscribe to this theory.

"Schiff thinks that the violent inflammation produced in lupus is sufficient to injure the life conditions of the microörganisms and therefore their continuance; Kummell that a specific effect is not produced on the lupus by the *x*-rays, but rather perhaps an electrochemical or trophoneurotic influence lies at the bottom of their work; Gocht that while the artifically non-infectious and harmless inflammation which reaches to the subcutaneous tissue is going on, an annihilation of the tubercle bacilli and healing take place; Albers-Schonberg suggests that possibly the *x*-rays have a direct effect on the tuberculous tissue, an effect which may be aided by a hyperemia, but he thinks that we are unwarranted in ascribing a healing influence to the acute dermatitis, because in some of his cases of lupus the nodules dried up and disappeared without dermatitis in treating cases of lupus" (The Roentgen Rays in Medicine and Surgery—Francis H. Williams).

Freund states "that when the *x*-rays are employed for treatment and not for the purpose of diagnosis, twelve volts should be used, and not more than one and one-half amperes; that the spark length of the coil should not be more than thirty centimeters; and that the interruptions should be between eight hun-

dred and one thousand per minute." On the other hand Dr. Williams uses one and one-half amperes and two hundred and fifty volts.

In using the static machine two hundred to four hundred revolutions per minute will accomplish all that is desired.

Dr. Zeit, of Chicago, thinks that from experiments made upon guinea-pigs "Roentgen rays have no direct bactericidal properties. The clinical results must be explained by other factors, possibly the production of ozone, hypochlorous acid, extensive necrosis of the deeper layers of the skin, and phagocytosis."

It has been demonstrated by many electricians that lupus, carcinoma, epithelioma, scirrhus, osteosarcoma, and other malignant growths disappear under the magic influence of the *x*-rays, and many deep-seated, internal, painful growths are being improved. Just what effect is produced upon the tissues, that brings about these wonderful transformations, has not yet been determined, but we confidently expect some learned pathologist at no distant day to discover and accurately describe the process. The opportunity awaits some aspiring student to immortalize himself.

The *x*-ray, as a therapeutic measure, is steadily growing in favor, and if permanent results are obtained from reported cures we will then have an agent of marvelous power which will do away with fear and anxiety. Time alone will determine the status of this expedient in the treatment of disease.

Let us not be too enthusiastic or too confident, but let us devote our time and our energy to studying this new therapeutic fad and rendering its technique more accurate. In this way we will aid in putting it upon a firm foundation if it is a rational method, and will bring relief to many hitherto hopeless sufferers.

American Medicine says one of the most interesting of the annual reports of institutions for the benefit of the sick and helpless is that of the New York State Hospital for the Care of Crippled and Deformed Children, which has been sent to donors and others connected with the work. During the year ending September 30, 1904, a total of 42 patients were treated for hip-joint disease, humpback, bow-legs, clubfoot, and kindred troubles. The description given of the methods of treatment used in many of these cases is informing to laymen and not too technical. Seventeen patients were discharged during the year, leaving 25 under treatment at the beginning of the new year.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

A TREATMENT FOR NEPHRITIS.

Some time ago a French investigator (Renaut, of Lyons), in a communication to the Academy of Medicine of that city, commented on the treatment of nephritis by means of a preparation made by maceration of the kidneys of the pig. The suggestions made in the report were not unlike others of their kind, but they seem to have been taken seriously by two Parisian clinicians, Page and Dordelin, who in a recent number of *La Presse Médicale* give reports of eighteen cases treated according to this method of Renaut, and their results seem remarkable enough to be barely credible. They report eighteen cases, in sixteen of which the albumin completely disappeared. In one case it diminished one-half, and in one case the effect of the treatment was in doubt, the patient having suddenly abandoned it. Better than the mere disappearance of the albumin is the assurance that all the troubles connected with its presence have disappeared with it.

This is Professor Renaut's method of preparing the maceration which has given these observers such remarkable results: A fresh kidney is cut into small pieces and washed with water to remove any excess of urine. These are hashed as they would be to prepare for making bouillon. This is then put into 300 grammes of water, to which salt is added in physiological proportions. This is left for three hours in a cool place to avoid fermentation. The red water of this maceration the patient drinks in three portions during the day. The mixture is in no wise repugnant, and it can be mixed with cold julienne soup and made quite palatable to the patient. The treatment should be continued for ten consecutive days. During this time most of the patients remain on a milk régime, but a lacto-vegetarian diet is allowed. It is of course highly important that this remedy

should be administered the same day it is made, as the effect of fermentation might be disastrous.

Page and Dordelin give the records of their eighteen cases, which seem to be the most diverse in their nature, and they maintain that they have seen their patients one, three, and eight months afterwards, and the analyses were negative as to the presence of albumin.

Renaut's theory is that there exists in the kidney a normal antitoxin which ceases to be secreted or is insufficiently secreted when the kidney is affected, and that at present the pig's kidney contains this antitoxin in the form most accessible for use in nephritis. There is of course nothing new in the theory, and the only source of surprise in the whole matter arises from the unusual and incredible accordance of facts with theories.

EDITORIAL NOTES.

Food Adulterations.

The question of obtaining pure food has now become a serious one, for almost everything now bought by the housewife is very apt to be impure. At the St. Louis World's Fair was held last summer an exhibit from various State boards of health of foods and beverages that had been found to be impure. There were in all about 2000 brands of food products that were shown to be impure. Minnesota and South Dakota exhibited sheets of wool and silk which were dyed with the artificial mineral coloring found in strawberry syrups, catsups, jellies, and port wines. Only eight ounces of this coloring matter was required to dye a piece of cloth five feet square. From Kentucky and Michigan were samples of beverages which chemical analysis had shown to be badly adulterated. Forty brands of catsup and fifty brands of baking powder were among the adulterated foods. The bottles which contained adulterated flavoring extracts were all found to be short measure. In a recent address made before the American Chemical Society, L. W. Walters, a prominent New York chemist, made the following statement: "Labels have come to mean nothing, and even in the case of chemicals for the use of men who are supposedly the best able to detect adulteration the designation C. P. often comes nearer meaning crude product than chemically pure. So far has the evil extended that it is almost if not quite impossible to obtain certain articles which are true to their names. It is doubtful whether pure olive oil

is to be had in this market except from dealers of the highest standing, and cottonseed oil sold under that designation is almost universal. In almost every case vinegar sold at low prices is fortified by the addition of mineral acid. Cocoa is adulterated with an excessive amount of starches with ground shells and sugar. It is an old story among food chemists that ground coffee is duplicated by drying, baking, and powdering hog's liver, which is mixed with chicory and sufficient coffee essence to give it flavor, while even the whole bean is duplicated by an artificial article of such a form as to defy casual detection. Pure maple sugar is almost an unknown quantity. Whiskey is sometimes manufactured from spirits by the use of 'beading oils' with various flavors and caramel coloring. The greater part of gin consumed in this country has never been prepared by distillation over juniper berries, but is made by adding oil to diluted spirits. Mustard is loaded with flour; tincture of Jamaica ginger is reënforced with capsicum; and the greater part of our ground spices are adulterated. One of the most baleful manifestations of the nefarious operations of the adulterator is in connection with drugs and medicines." It would seem that the time is about ripe for some enactment to be made by Congress to put a stop to these frauds, which are such a menace to public health.

The Study of the History of Medicine.

Just why medical colleges and universities have never inaugurated a systematic course in the history of medicine is hard to see. It certainly would afford the student a profitable relaxation from the dry bones of the science he studies so assiduously. Dr. Eugene F. Cordell, of Baltimore, in a discourse delivered on the one hundred and fifth anniversary of the Medical and Surgical Society of the State of Maryland, insisted on its importance. The speaker summed up the advantages of the study of medical history as follows: "It is the best antidote we know against egotism, error, and despondency. It increases knowledge, gratifies natural and laudable curiosity, broadens the view, and strengthens the judgment. It is a rich mine from which may be brought to light many neglected or overlooked discoveries of value. It furnishes the stimulus of high ideals which we poor weak mortals need to have ever before us. It teaches our students to venerate what is good, to cherish our best traditions, and strengthens the common bond of the profession. It

is the fulfilment of a duty—that of cherishing the memories, the virtues, the achievements of a class which has benefited the world as no other has, and of which we may feel proud that we are members."

To Safeguard the Public Health.

There has been introduced into the present session of the Pennsylvania legislature a bill which provides for the complete reorganization of the State Board of Health. This bill provides for the establishment of county boards of health and county and township health officers. It will also provide for a uniform system of notification of transmissible diseases throughout the State. The medical officer of the county is to be a practicing physician of at least five years' experience, and to have some special knowledge of sanitary law and administration. The county court will name the health officers for the various townships subject to approval of the State Board of Health. By this law 1500 salaried positions will be made for physicians. The medical officer of health, the township health officers, and the county commissioners will constitute the county board of health under the new law. These boards will meet once a year, unless called for more frequently by the county health officer. Such is a brief outline of what appears to be the most complete organization for safeguarding the health of the people that has ever been attempted.

Contests of Endurance Prohibited.

Contests of endurance, so called, will in New York be a thing of the past. Recently an ordinance was passed by the Board of Aldermen prohibiting such contests in the future. This action is taken to put a stop to six-day contests in bicycle and walking races, which of late years have been so frequent. The new law limits such contests to a period not exceeding three hours. This is one of the most sensible ordinances we ever heard of being passed by a board of aldermen. The exhibitions that have been held in the past, when in numerous instances the contestants had to be constantly drugged to keep them on the track, have certainly been disgraceful. In several instances men have lost their reason on account of participating in these brutal six-day races. Other cities would do well to pass similar ordinances.

ITEMS AND NOTES.

THE number of persons who died of pellagra in Italy in 1903 was 2648.

THE plague district in the Ural region has been cordoned by Cossacks, and the disease has been localized.

THE semiannual meeting of the Medical Society of the Missouri Valley will be held in Kansas City March 23, 1905.

THE Bulletin of Chicago's Health Department states that pneumonia is much less prevalent and less fatal this year than usual.

$100,000 has already been subscribed for the construction of the Children's Memorial Hospital, Chicago, which will cost $300,000.

THE Nobel prize in physical science has been awarded this year to the English physicist, Lord Rayleigh. His coworker, Sir William Ramsay, received the prize in chemistry. The five prizes now amount to $40,000 each.

THE statistics of the Naples Antirabic Institute for the three years 1901-1903 have just been published. The number of persons admitted during that period was 1470. The percentage of deaths in the total number was 2.

DR. ROBERT WOODWARD, who has been chosen head of the Carnegie Institute, has been dean of the School of Pure Science at Columbia University since 1895, and professor of mechanics and mathematical physics since 1893.

THE late Professor Tillaux, of Paris, has left $100,000 to the French fund for pensions to working men. He has also bequeathed considerable sums to the Medical Association of the Seine Department and to other professional bodies.

A PRIVATE citizen has placed in the hands of the government of the Grand Duchy of Baden a sum of $650 toward the foundation at Heidelberg of an institute for the study of cancer. The government has given a site for the purpose in the immediate neighborhood of the University Hospital, and has promised a grant for the maintenance of the institute.

A NEW charter of the American National Red Cross has been passed by both houses of Congress. This charter, which puts the organization practically under the control of the government, was drawn by two former secretaries of state—Mr. Richard Olney and Mr. John W. Foster.

THE study of the history of medicine is the object to which a legacy of 25,000 pounds sterling left by the late Professor Puschmann, of Vienna, to the University of Leipzig is to be applied. It is proposed to found a historic museum of medicine, and a special seminary for training persons in medicohistoric research and in historiography.

AMONG the members of the medical profession in foreign countries who have recently died are Dr. A. S. Herrero, professor of clinical medicine in the University of Madrid; and Dr. Alexander Bobroff, professor of surgery, director of the surgical clinic of the University of Moscow, and a former president of the Russian Surgical Society, aged fifty-four.

A NUMBER of actuaries and medical directors of New York insurance companies have, says a contemporary, been working on statistics running over a period of several years. From the record it is claimed that total abstainers as a class live longer by from 20 to 50 per cent than moderate drinkers, so that this class of applicants will soon have to pay less for insurance than the moderate drinkers.

IT is reported, says an exchange, that so great is the rush of Russian Jews arriving in London suffering from trachoma that the hospitals are turning them away. A large number of these persons are *en route* to America, while others have been rejected by the United States immigrant inspectors, and having been returned by the steamship companies are stranded in the United Kingdom instead of being sent back to Russia.

IN Japan the blind have, says the *Medical News*, a practical monopoly over massage. There massage is cheap and within the means of all classes. The blind, protected by the government, are self-supporting and contented with their lot. This condition has existed for centuries. In four countries—Russia, Belgium, England, and Germany—there have been well-organized and successful attempts to teach selected blind people massage. Here in America the only definite series of attempts in this direction were made by Mr. Allen.

The Bulletin of Chicago's Health Department states that recently the laboratory has been making a systematic examination of the air to determine the cleansing effect of snow. It was found that even a slight snowfall produced a decided reduction in the number of bacteria in the air. The greatest reduction (falling upon 10 square inches of surface in a minute) noted was a decrease from 1020 on Novembr 26 to 23 on December 3, produced by the slight fall of snow on the last named date.

The official returns show, according to a London exchange, that fewer lives were lost at sea in 1903 than in any year in the last twenty-five. The lives lost in 1903 were 624, of which 599 were sailors and 25 passengers. The annual average for the last twenty-five years is 1613 lives. Other figures show 5765 accidents, sufficiently serious to be recorded, and 350 vessels total losses. Of these 70 foundered, 188 stranded, 56 were sunk in collisions, and 18 disappeared. Of the lost 2 had been sailing safely for over sixty years, five for over forty, and 21 for over twenty years. Five thousand six hundred and sixty lives were saved on the British coasts by the following means: Rocket apparatus, 235; lifeboats, 489; coastguards, 205; passing ships, 578; ships' own boats, 1100.

Charities states that a British journal devoted to hospitals and nursing is discussing a scheme for supplying visiting nurses to other than the poor people of England. Attention is called to the fact "that the middle class in England is increasing constantly in numbers, and that its needs do not receive proper consideration. If the clerk or the poor clergyman seek the shelter of the hospital we have columns about hospital abuse; if they ask to be allowed to pay what they can afford, they are told they must either pay the full fees of a nursing home, or accept the charity of the common wards, and the service of the district nurse is denied them." The scheme proposed for meeting this situation is the establishment of homes from which visiting nurses should work, charging moderate fees, working under committees, and subject to inspection—for the "many cases in which the constant presence of a stranger would only mean restraint and worry, and when the illness demands but a morning and evening visit."

An exchange says, according to the annual report of John W. Yerkes, Commissioner of Internal Revenue, the number of illicit stills seized during the year was 1018. Since 1897, in the seizure of 13,624 illicit stills, seven officers and employees have

been killed, eighteen wounded, and 7008 persons arrested. The report says there were 673 cigar factories in Maryland, which produced 3,793,492 pounds of cigars, or 163,400,266 cigars of the three-pound variety, and 184,832,290 of the smaller cigars. The Maryland cigarette factories, which are given as two in number, manufactured 44,000 of the larger cigarettes and 10,000 of the smaller ones. The States showing the greatest production of little cigars (weighing less than three pounds per 1000) are: Virginia, 238,578,750; Maryland, 184,832,290; New York, 152,817,681. New York, Virginia, Louisiana, and North Carolina, in the order named, show the greatest production of cigarettes weighing less than three pounds per 1000. New York produced 2,130,258,699; Virginia, 773,475,640; Louisiana, 225,673,500; North Carolina, 76,029,350. New York State produced the greatest number of large cigarettes, showing a production of 6,040,966. Missouri, North Carolina, Kentucky, and Virginia, in the order named, were the largest producers of both chewing and smoking tobacco.

At the annual meeting of the board of trustees of the Carnegie Institute, held at Washington on December 13, it was announced, according to the *Medical Record,* that during the year $355,070 had been expended to further research in various departments of science, and that twenty-four research assistants had received $1000 each. The projects undertaken include the establishment of a department of biology with stations at Cold Spring Harbor, L. I., and at the Dry Tortugas, Fla.; of a department of economics and sociology; a bureau of historical research; a department of international researches in terrestrial magnetism. Special grants were made for an archeological expedition to the trans-Caspian region, and for geophysical research. Other grants were for the encouragement of biological researches at the Marine Biological Laboratory, Woods Hole, Mass.; also at Dr. Dorhn's laboratory at Naples; for an anthropological investigation in the United States, and archeological investigation in Syria, Palestine, Egypt, Nubia, etc.; for important astronomical investigations in several of the great observatories and elsewhere; for the publication of the *Index Medicus;* also for other important bibliographical work, such as the preparation of a handbook of learned societies of America, etc., for investigation of desert vegetation; for study of the fundamental principles of geology; for extended geological explorations in China; and for investigations in nutrition at the laboratory at Middletown, Conn.

NEW PUBLICATIONS.

ORGANIC NERVOUS DISEASES.

The enormous amount of clinical material at the disposal of the author, Dr. M. Allen Starr, of New York, forms the basis for this volume on the Organic Nervous Diseases. He does not aspire to touch upon mental diseases, but the organic nervous diseases are treated in a masterly and up-to-date style. The work is thoroughly scientific and a most desirable addition to the practitioner's library.

The illustrations, both diagrammatic and other, are beautifully executed. Indeed, all of the publisher's work is done with the most discriminating care and good taste, and the subject-matter of the book constitutes one of the most valuable additions to recent neurological literature. Practical, scientific, thorough, this book is a landmark among the text-books on nervous diseases.

Organic Nervous Diseases. By M. Allen Starr, M.D., Ph.D., LL.D., Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons, etc., etc. Lea Brothers & Co., New York and Philadelphia.

NERVOUS DISEASES AND PSYCHIATRY.

To the sixth edition of his scholarly work on Nervous Diseases Dana has added sixty-eight pages on the Diseases of the Mind. Psychiatry cannot, of course, be adequately covered or fairly presented in sixty-eight pages of the ordinary text-book, and it seems to us that the high reputation which the author's work on nervous diseases has hitherto enjoyed will scarcely be enhanced by this addition, since the subject of psychiatry is so much better covered by several other text-books upon the subject.

We have previously called attention to the scholarly presentation of the subject of diseases of the nervous system, and a careful comparison of the last prior edition shows this edition to contain almost no changes worthy of mention.

Text-book of Nervous Diseases and Psychiatry. For the use of Students and Practitioners of Medicine. By Charles L. Dana, A.M., M.D., etc., etc. Sixth Revised and Enlarged Edition. New York: William Wood & Company, 1904.

PNEUMONIA AND PNEUMOCOCCUS INFECTIONS.

An extremely seasonable publication appears in the monograph of Dr. Preble, of Chicago, on pneumonia and the pneumococcus infections. The increasing significance of the process in pneumococcus infections is admirably displayed in the author's remarks. The etiology of the disease still leaves much to be ascertained, but the alarming prevalence of this trouble in modern days will doubtless direct attention to remedial measures to lessen the scourge. This little book will repay careful perusal.

Pneumonia and Pneumococcus Infections. By Robert B. Preble, A.B., M.D., Professor of Medicine, Northwestern University. Cloyd J. Head & Co., Chicago.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Surgical Hints.

The January issue of the *International Journal of Surgery* contains the following surgical hints:

When observing a case with doubtful symptoms of mastoid disease withhold morphine, if possible, for its administration masks a very important indication—pain.

In connection with an irritating vaginal discharge, pus formation in the urethral follicles is extremely suspicious of gonorrhea, even though it fails to show the presence of gonococci.

Gunpowder not too deeply embedded in the skin may be removed in many instances by the cautious use of the following ointment: betanaphthol, 10; sulphur, 45; lard, 24; green soap, enough to make 100 parts.

Tenosynovitis, for example of the forearm, is easily recognized by the peculiar crepitus transmitted to the examining hand, when the patient moves the muscles. Tincture of iodine gives the most satisfaction in its treatment.

Tincture of iodine may also prove of great service when introduced on an applicator into an empyema sinus which, without the presence of continued pus formation and without osteomyelitis of a resected rib, still fails to close spontaneously.

Gonococci cannot often be found in a vaginal discharge even when they are present. To secure a specimen in a suspected case take it from the cervix, or better yet, from the urethra. The vestibule is carefully sponged off clean. With a finger in the vagina the urethra is then compressed against the pubes. A drop of the pus thus squeezed from the urethral follicles is spread upon a cover-glass.

Deep Linear Strictures.

G. Frank Lydston (*International Journal of Surgery,* January, 1905) says that a relatively contracted or actually constricted condition of the membranous urethra, and especially of the bulbomembranous junction, often exists in cases in which instruments of considerable size can be introduced into the bladder with a greater or less degree of freedom.

This condition gives rise to more or less frequently recurring attacks of inflammation of the deep urethra and its adnexa, including especially the prostate.

When instrumentation is painful, attended by spasmodic obstruction to the passage of instruments, and followed by deep-seated inflammation, with frequency of micturition, and perhaps chill and fever, the condition described usually exists.

In the majority of cases of so-called spasmodic stricture there is an organic foundation in the form of a relative or actual narrowing chronic inflammation, and great hyperesthesia of the membranous urethra.

A properly constructed bulb is the only instrument with which such strictures can be satisfactorily demonstrated.

The severity of the symptoms resulting from the condition described is usually out of all proportion to the degree of contraction, the most intractable variety of stricture in this location being stricture of large caliber located in the bulbomembranous junction.

The only form of treatment which promises satisfactory results in such cases is perineal section with free division of all points of narrowing and complete dilatation of the deep urethra and vesical neck, followed by more or less prolonged rest by drainage.

The Use and Abuse of the Cystoscope in Prostatic Disease.

G. Frank Lydston (*Medical Times,* January, 1904) says that when the diagnosis of prostatic obstruction is clear, the indication for radical operation is also clear, the application of this statement being modified only by the conditions governing the individual case. Any exploration of the bladder which is unnecessary to the establishment of a practical working diagnosis is not only useless but exceedingly dangerous.

Cystoscopy is especially dangerous, and where not absolutely necessary is especially to be avoided, because of the traumatism and subsequent danger of infection which the insertion of the instrument necessitates and the frequent necessity of anesthesia with prolonged exploration of the bladder.

The use of the cystoscope, especially when anesthesia is employed, rapidly compounds the immediate danger to the patient and the subsequent danger of operative procedures.

A properly performed radical operation is much less dangerous than a cystoscopic exploration. The use of the cystoscope

rarely accomplishes more than the gratification of the curiosity of the operator in the establishment of refinements of diagnosis.

So far as the diagnosis of stone is concerned, the use of the cystoscope is superfluous. Whether the presence of stone be established or not, a radical operation for the removal of the prostate is necessary. The stone can be removed at the same time.

There are exceptional cases of posterior median obstruction and of prostatic overgrowths at the neck of the bladder in which the cystoscope is necessary. These cases are safer for exploration than the orthodox type of prostatic obstruction, but even in them diagnosis can usually be established without the cystoscope, and where this can be done the use of that instrument should be avoided.

Sarcoma and Carcinoma in the Same Individual.

An instance of this kind is described by H. Haberer (*Medical News,* Jan. 7, 1905) in a man fifty-four years of age, who presented a rounded growth on the border of the epiglottis. It was shaped like a mushroom and was readily removed by the cautery loop. Microscopical examination showed the tumor to be a spindle-celled sarcoma. A year and a half later the patient presented himself with an infiltrating indurated tumor at the base of the tongue. Total extirpation of the tongue was performed, together with excision of the epiglottis and the hyoid bone. Two days after the operation he died from pneumonia. The tumor was found to be a carcinoma. The author considers the case as one where two independent malignant growths presented themselves, each arising from separate organs and tissues, a number of similar cases being known.

A Posterior Incision in Operations for Appendicitis.

A. Sheldon (*British Medical Journal,* Dec. 17, 1904) advocates a posterior or lumbar incision in certain appendicitis operations. In this method a vertical incision exposing the quadratus lumborum is made along the outer border of the latissimus dorsi, and extending in an upward direction from the crest of the ilium. The second incision is made transversely close to the iliac crest, through the lumbar fascia and the transversalis, exposing the parietal peritoneum directly over the ascending colon and cæcum. It is stated that in cases of suppurative appendicitis the abscess, except in some very rare forms, is in direct contact with the

cæcum, and can be opened more quickly and with less difficulty and danger through a posterior incision than by any other route. The abscess is by this method opened in the most dependent part, and the infected area is reached and treated without free exposure of the omentum or small intestine. In instances of the common and serious complication of retroperitoneal infection drainage is much more efficiently established through a posterior than through an anterior incision. With the posterior incision there is less risk, it is held, of postoperative hernia. The author has practiced this method in fifty-eight cases, and has found no disadvantages in it.

Primary Genital Tuberculosis in Childhood.

I. A. Allar (*British Gynecological Journal,* November, 1904) has collected nineteen cases of primary tuberculosis of the female genitalia, and reports another in a girl aged eleven years who died from pneumonia. At the autopsy the lungs were found studded with recent tubercle, and there were a few caseous nodules about the trachea. There was evidence of old tubercular peritonitis. The uterus was enlarged and its cavity distended with caseous matter, and the mucosa contained numerous tubercles. Both tubes were affected, but the ovaries were free from the disease; the vagina, external genitals, and urinary tract were also free.

Plantar Pain.

Franke (*Deutsche med. Wochenschrift,* No. 53) calls attention to the frequent occurrence of pains in the soles of the feet, and divides them according to their etiology into five groups: (1) flatfoot; (2) tumors; (3) inflammatory and traumatic conditions, especially of the fascia, tendons, synovial membranes, and the soft tissues; (4) diseases of the nerves; (5) gout with uric acid deposits between the plantar fascia and the bone. Fascitis plantaris and neuritis often occur after infectious diseases, especially after influenza.

Do Operations on the External Female Genitals Affect Pregnancy?

Volk (*Wiener klin. Wochenschrift,* No. 49) reports thirty-eight cases where operation was performed on the external genitals of pregnant women; of these six miscarried. Most of the patients operated on were suffering from gonorrhea. The

advanced state of the pregnancy in these cases allows the author to state that in only two instances was the operation the cause of the miscarriage. He believes that operations in this region do not influence the pregnant uterus.

Removal of Vesical Calculus.

Kubinyi (*Centralblatt f. Gynecol.*, No. 74) removed a calculus from the urinary bladder of a woman forty years old. The history was that owing to difficult urination she had catheterized herself with a goose-quill, the end of which had broken off, forming a nucleus for the stone. At the operation the bladder and urethra were found to be in a state of anesthesia. The author attributes the anesthesia to be due to an affection of the cauda equina.

MEDICINE.

On the Presence of Organic Acid in the Urine in Cases of Rheumatoid Arthritis.

H. Baldwin (*American Journal of the Medical Sciences*, December, 1904) says that in the graver forms of acid intoxication, as in diabetes and certain forms of mania, the acid excretion is in such large quantities that there is marked increase in the ammonia excretion to neutralize this acid. In the cases of rheumatoid arthritis, however, the percentage of ammonia is not increased so as to be an indication of a condition of acidosis. The normal percentage of the nitrogen of ammonia is from 2 to 5 per cent of the total nitrogen. The average in the specimens examined was 5.4 per cent. In all of these cases of rheumatoid arthritis, with progressive lesions, there are certain definite evidences in the urine of perverted metabolism. In only three cases were the stomach contents examined, and in all of these there was an absence of free hydrochloric acid after a test meal, although the patient had no other symptoms of gastric indigestion. Intestinal putrefaction was found to be constantly excessive in those patients who had active symptoms of the disease. Besides these evidences of gastric and intestinal disorder there was regularly found in the urine organic acid other than that normally present. As the various forms of organic acid are readily oxidized in the body, the amount formed is probably in excess of the amount excreted. Patients leading as inactive

lives as those with rheumatoid arthritis would naturally be subject to gastrointestinal indigestion, but the regularity with which such symptoms are noted and their degree would suggest that certain of the disturbances of nutrition which occur in rheumatoid arthritis are due to these putrefactive processes in the intestine.

The Behavior of Native Japanese Cattle in Regard to Tuberculosis (Perlsucht).

S. Kitasato (*American Medicine,* Jan. 7, 1905) says that human tuberculosis is as frequent in Japan as in the civilized countries of Europe and America. Primary intestinal tuberculosis is relatively common in adults and children, although cow's milk plays no rôle at all in the feeding of children.

There are large districts in Japan where in spite of the existence of human tuberculosis the cattle remain absolutely free from the disease. In these regions it is not customary to consume either meat or milk from bovines.

This is very important proof for the fact that under ordinary conditions human tuberculosis is not infectious for bovines, as the opportunities for infection certainly cannot be lacking.

Among Japanese in general very little cow's milk is used, and especially is it employed but little for the dietary of children.

Under natural conditions the native animals show but very little susceptibility for perlsucht. If large doses of perlsucht bacilli are inoculated into them either intravenously or intraperitoneally, they become tuberculous to a certain degree; they do not seem to be at all susceptible to subcutaneous infection.

The imported and mixed race animals are very susceptible to perlsucht.

Human tuberculosis is not infectious for native and mixed race animals.

Streptococci in Air.

E. C. Rosenow (*American Journal of Obstetrics,* December, 1904) draws attention to facts in regard to streptococci in the air of hospital operating-rooms and wards during an epidemic of tonsillitis: (1) The infections occurred only in the most extensive, prolonged intraperitoneal operations. (2) Owing to the large number of operations, the operating-rooms were often in use from morning until night. These rooms were seldom disin-

fected. (3) The accidents occurred during the winter months; no adequate system of ventilation was in vogue anywhere in the institution. (4) During this time a number of patients suffering from very severe streptococcus infections were being dressed in the general dressing-rooms of the hospital. The same carts on which these patients were dressed were used in transporting other patients to the operating-room. (5) An epidemic of streptococcus angina prevailed among internes, nurses, attendants, and patients. (6) The streptococcus pyogenes was responsible in each instance.

Rosenow is convinced that there is what might be called "hospital air," which under circumstances such as those mentioned may become rich in pathogenic bacteria. The streptococcus seems to become more virulent or more numerous during an epidemic of angina due to this cause. Rosenow advises that persons suffering from such an affection should be isolated, and that the operator, the assistant, and all connected in the handling of surgical material before and during the operation should wear a proper mouth covering. All sterile surgical material should be exposed to the air as little as possible. All operating-rooms should be frequently fumigated with an efficient disinfectant.

Microgastry.

At a recent meeting of the Paris Academy of Medicine M. Bendersky (*Lancet*, Dec. 31, 1904) communicated the results of some researches which he had made into the condition of primary (primitive) microgastry—*i.e.*, abnormal deficiency in the size of the stomach. By means of auscultatory percussion M. Bendersky had recognized the existence of stomachs the lower border of which was at a distance of six, eight, or even ten centimeters above the umbilicus. The cases were mostly women. The diminution in the capacity of the stomach results in its being impossible for that viscus to contain the normal quantity of food, with the further consequence that vomiting is frequent, but is not accompanied with preliminary nausea. The vomiting may in fact be called automatic, and the patient feels none the worse for it. In some cases vomiting occurs ten times per diem, and a very rebellious hiccough is often associated with the condition. M. Bendersky proposed as the best treatment that the meals should be very small, but given at frequent intervals. He was further in the habit of washing out the stomach with small quantities of warm water in order to lessen its hyperexcitability.

Carbohydrate Metabolism.

Frederick A. Rhodes (*American Medicine,* Dec. 10, 1905) says that from his work he finds, like Armheim and Rosenbaum, that all the organs contain enzymes, which may be extracted and cause the destruction of grape-sugar. The pancreas shows the action more positively than any other organ.

The variable results are due to many conditions working together for a decided action. In unfavorable conditions the results may be negative, although the enzymes are present in abundance.

The extract which has been found to give the best results is the one made by using glycerin and alcohol.

The glycerin-alcohol extract of all organs used shows by experiment the presence of pronounced diastatic enzymes as well as the glycolytic.

Clinically results are good by the administration of the glycerin-alcohol extracts, pancreas, spleen, and muscle. The best results were by hypodermic injections of combined pancreas and muscle.

The peculiar action at times in the different experiments makes it quite possible that there is more than one enzyme concerned in the sugar destruction, and that at times other enzymes interfere with the glycolytic action.

Normal Temperatures.

Oehler (*Deutsche Arch. f. klin. Med.,* Bd. 80, Heft 3 u. 4) examined a number of individuals as to the temperature of the skin in different parts of the body, and found that it varies but slightly (33.5°-35.5°). The warmest part was found on the face and buttocks, the coldest on the hands and feet. Hunger caused the temperature to decrease, as also did a fall in the external temperature. The forehead, breast, and upper arm vary a little. An increase in the surrounding atmosphere up to 30° causes a slow rise up to 35.5°; it then remains constant until perspiration sets in.

Tuberculosis of the Larynx.

E. H. Griffin (*Medical Record,* Dec. 17, 1904) reports a case of tuberculous laryngitis which began five years ago, and was remarkable for the fact that three attacks of the local lesion, each

time going on to the stage of ulceration, were promptly relieved by sending the patient out of the city to Colorado or the Adirondacks. Each time the throat healed, and the patient is still alive, has gained weight, and is able to attend to business. The internal treatment consisted in the use of creosote and small doses of morphine. The author believes in treating the throat as little as possible in these cases, as violent spraying into the larynx tends to inflame and spread the ulceration. Morphine is less objectionable than any other drug, and the author prefers it to cocaine. Hygiene is all-important, and open windows day and night, proper clothing not too warm, cold bathing and sponging with alcohol or cold water during the fever, and forced feeding are the best aids to nature in combating the infection.

Congenital Icterus with Splenic Tumor.

A most peculiar pathological condition came under the observation of H. V. Krannhals (*Medical News,* Dec. 24, 1904). A patient presented himself for jaundice and its concomitant symptoms, which had troubled him since early childhood. Otherwise he felt perfectly well, and physical examination was negative, except for a fairly large, firm spleen. Further questioning elicited the remarkable fact that several sisters and brothers, his mother, grandmother, and aunt, and some more distant relatives, were just as yellow and also complained of an abdominal tumor. The urine of the patient contained no pathological elements except bile; his feces were never acholic and his blood showed a moderate anemia with polychromatophilia. The pathology of the condition is not known since autopsy records are not at hand, but it is likely that the enlargement of the spleen is the primary condition, and that the bile in the serum results from the action of some toxin in the liver.

The Lymph Flow from the Pancreas.

F. A. Bainbridge (*British Medical Journal,* Dec. 31, 1904) says that the injection of secretin or ileum extract causes an increased flow of lymph from the thoracic duct. This has been previously shown by Falloise and by the author. After ligature of the portal lymphatics secretin still causes an increased flow of lymph, whereas ileum extract has no effect. The increased lymph flow produced by secretin is not caused by the depressor substance, but by secretin itself. There is a close relation between

the secretin of pancreatic juice and the increased flow of lymph. The lymph is derived entirely from the pancreas, and is probably formed as a result of metabolic changes occurring in the pancreas during the secretion of juice.

Diagnosis of Renal Tuberculosis.

Milchner (*Berliner klin. Wochenschrift,* No. 47) reports a case of an eleven-year-old girl who evidenced a bloody and purulent discharge from the left kidney. The organ was tender and large, the child emaciated, and an acid-resisting bacillus was found in the urine. A diagnosis of tuberculosis of the kidney was made and the organ extirpated. No tubercular condition was found, but a hydronephrosis and a kinking of the ureter. The acid-resisting bacillus was evidently a smegma bacillus, and the author suggests that in all such cases animal experiments be made.

THERAPEUTICS.

The Treatment of Puerperal Infection.

R. W. Holmes (*Clinical Review,* January, 1905) says that practically the battle against puerperal infection is won by adequate system of asepsis and antisepsis; acute infections very rarely arise or are of serious moment. It is no more possible to operate aseptically without skilled assistants in obstetrics than in general surgery; to properly conduct the case requires a full quota of assistants. Puerperal infection is not a specific disease. Diverse types of microörganisms may be the etiologic factors, and any part of the parturient canal may be the seat of the infection.

To treat locally a thermal condition of the puerperium without clear, positive knowledge of the seat of infection should be characterized as an obstetric crime.

At the present time there is absolutely no method of adequately reaching the offending germs in the uterine submucosa or muscularis. The curette cannot discern the locality of the retained remnants of secundines; the finger alone can discern this; a placental forceps more easily, more certainly, and with infinitely greater safety can remove them, after their locality is digitally ascertained. It is a grave error to neglect digital revision of the uterus after any instrumentation within the uterine cavity, for the purpose of ascertaining that the contents have been

completely removed, and that no traumatism has been inflicted upon the structures of the organ. Nature by supplying the reaction zone of Bumm offers the surest safeguard to the woman. Puerperal infections demand the same rest for the uterus as inflamed parts elsewhere require rest. The danger of shreds in the uterus is greatly overestimated as regards their rôle in infections. Active operative measures endanger the life of the woman double or treble that of the expectant policy. The use of saline purges, with the administration of ergot, hydrastis, etc., removes much of the danger or necessity of active therapy—in a day or two the danger is past, for like a baby the lying-in woman is subject to evanescent febrile elevations.

The Successful Use of Adrenalin Chloride in a Case of Plague.

Dr. J. N. Bahadurji, of Bombay, writing in the *Indian Medical Gazette,* says:

"Recently my attention was drawn to the published report of Dr. K. C. Bose on the successful use of another preparation of the suprarenal gland, the solution adrenalin chloride (P., D. & Co.). Encouraged by the knowledge that it had proved so successful in the hands of Dr. Bose, I tried this preparation in a case of plague recently with astonishing results. A lady (21) came under my care on the second day of fever, with tenderness in the right axilla. On examination, infiltration could be felt along the course of the axillary vessels, which developed on the next day into a small bubo. The diagnosis of plague was confirmed by Dr. Nariman, of Parsee Fever Hospital (Special Plague Hospital), and we agreed to put the patient on adrenalin at once. The pulse, which was 132 to 140 and soft and irregular, fell after the third dose of solution adrenalin chloride (20 minims for the first dose and 10 minims subsequently every two hours) to 98, became firm and regular both in rhythm and volume. The temperature, which kept between 103° and 103.5° the first day, was reduced to 102° and 102.8° by five-grain doses of euriacol carbonate, three hourly at first, and subsequently half doses till 100° was touched on the fifth day of the disease, when the euriacol was discontinued. The case made an uninterrupted recovery, the temperature touching the normal line on the eighth day. The solution adrenalin was continued in five-minim doses two hourly until the pulse fell to 82, then three-minim doses were given four times a day until the twelfth day.

"The point of interest is the rapidity with which the solution adrenalin chloride acted on the circulatory apparatus and the consistency and persistence of its action. The preliminary vomiting and diarrhea subsided on the tenth day altogether. Glycerin and belladonna in equal parts were applied to the bubo, and poultices every two hours.

"In adrenalin we have then a cardiac stimulant and tonic of the best and non-irritant kind, displacing the nauseous and nausea-producing digitalis, and is well worth trying. I need hardly mention that no other cardiac stimulant was administered, not even alcohol in any shape."

On the Administration of Antistreptococcic Serum.

The injection of antistreptococcic serum in cases of pure streptococcal infection has, according to T. W. Walker (*Lancet,* Dec. 31, 1904), been followed by strikingly beneficial results: That variability in the results of the serum in proved streptococcal infection has been due to the selective activity displayed by the antitoxin of each variety of streptococcus or to the serum being used too late in the case or having lost its activity from staleness; that more uniform results are likely to be obtained from the present "compound" antistreptococcic serum than from the earlier forms, from the prompt injection of serum at the commencement instead of near the close of a severe infection, and from the use only of serum which has been recently prepared; that the initial dose may with benefit be increased, and that a large quantity spread over several days causes no ill effect; that the administration of the serum should be continued for some days after the general symptoms have disappeared, and a recrudescence thus avoided.

The Diagnostic Value of Tuberculin in Orthopedic Surgery.

W. S. Baer and H. W. Kennard (*Johns Hopkins Hospital Bulletin,* January, 1905) say that tuberculin is the best and most reliable diagnostic agent for incipient tuberculosis of bones and joints. Its proper administration is attended by no permanent harmful effects. The dosage is variable and it is rarely necessary to exceed a dose of six milligrammes. The local signs are of equal if not greater importance than the general reaction in bone and joint tuberculosis. Tuberculosis practically always

reacts to tuberculin. Diseases other than tuberculosis may possibly react to tuberculin, but the evidence on this point is not conclusive. The diagnosis of tuberculosis can be made earlier and with more certainty by means of tuberculin than by radiography. The tuberculin test is applicable to private and dispensary as well as to hospital practice.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

A Contribution to the Serum Therapy of Syphilis.

In a communication to the *New York Medical Journal and Philadelphia Medical Journal* of December 24, 1904, Dr. Justin De Lisle, of New York, writes in part that every laboratory result contributes to progress in two important directions: first, in opening the way for future investigations, and secondly, in the application of the result in practice. No great forward strides in the history of medicine have equaled those made since the revelations of biology and bacteriology have been adopted by the practitioner.

Not least among the many candidates waiting for general recognition by this department of rational medicine is the serum treatment of syphilis.

As the culmination of a protracted investigation, the bacillus of syphilis was revealed and duly announced to the medical world in 1901; but this only served as a starting-point for a still more complicated and arduous work, viz., the vaccination of animals and the clinical trial of their serum.

Antisyphilitic serum is in no wise an antitoxin. It is in reality a toxin—that is, a toxin for the bacillus of syphilis, for which it has a particular and specific affinity. When the toxin comes in contact with the syphilitic organism, it causes that bacillus to disappear.

It has been argued by many writers that, according to the fundamental mechanism of bacteriolysis, a bacteriolytic serum cannot exercise its functions *in vivo,* because of the absence of the alexin free in the circulation. It is admitted, from observation and experiment, that bacteriolysis depends upon the conjunction of two bodies—*i.e.,* the sensibilisitrice—or the specific substance that sensitizes the particular microbe or cell, and the alexin or body that actually dissolves the sensitized microörgan-

ism or cell. Now *in vitro* the phenomenon of bacteriolysis is evident and carries its own explanation, for both alexin and, in cases where the animal has been vaccinated with the particular microbe, sensibilisitrice are present, consequently when the microbe in question is brought in contact with this serum, solution takes place. It must also be understood that the alexin is an extremely sensitive body, a temperature of 56° or 57° C. destroying it completely, and even at the ambient temperature, in the course of a day or so, it is enfeebled, and later on completely lost.

Therefore, it has been reasoned, should a bactericidal or bacteriolytic serum be generated, its solvent power would only be of a few hours' duration, on account of the absence of one of its essential ingredients, viz., the alexin, and such a serum's value as a curative agent, when injected into the organism of the diseased animal, must necessarily remain *nil,* because the alexin is not found free in the blood as the latter circulates in the vessels.

Very naturally the question arises, how does a bacteriolytic serum act? For in practice such serums certainly do act, and cause the destruction of the particular microörganism for which they have a particular affinity.

Without entering into the controversy as to whether there are one, two, or even more alexins, it only remains to be pointed out where this substance can be found in the circulating fluids of the organism, and thus grasp the key to bacteriolysis *in vivo.*

The proposition is: First, bacteriolysis depends upon the conjunction of the sensitizing body (sensibilisitrice) and the solvent body (alexin); in the absence of either one of these bodies solution will not take place. Secondly, the alexin is never free in the circulating blood, and is only an evanescent element in blood (serum) outside of the body.

How, then, explain bacteriolysis caused by the injection into a living animal organism of a bacteriolytic serum?

Beginning with the serum of an animal that has been vaccinated with a particular microbe, presumably this serum has been heated to 56° during one hour, or is a week or a month or more old, and the alexin has all disappeared, but the specific anticorps (sensitizing body or sensibilisitrice) is present. Now select an individual suffering from a disease caused by the particular microbe for which this body (sensibilisitrice) has a special affinity. Finally, if the malady is one wherein the microbe, which is the cause of the disease, possesses only a feeble positive chemiotaxia, and circulates with, but is ignored by, the phagocyte, we

have an ideal condition for the employment of a bacteriolytic serum.

The serum, containing, as we have stated, the sensitizing body (sensibilisitrice), sensitizes the microbe, which is then immediately seized upon by the phagocyte, and as the phagocyte always contains the alexin, bacteriolysis instantly begins, because of the conjunction of the two bodies essential thereto.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
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Justification of Vaginal Total Extirpation of Carcinoma of the Uterus.

A. Schauta (*British Gynecological Journal,* November, 1904) records the results of much laborious anatomical research into the conditions of the glands in uterine cancer. In a very large number of available subjects, examining not only those local glands which are within the range of operation but also the lymphatics of the second line which are not within the reach of surgical interference (the lumbar celiac and superficial and deep inguinal glands), it appeared that in 35 per cent of the cases in which the disease had attacked the glands of the first line, those of the second line were also carcinomatous; in 8.3 per cent the glands of the second line were affected, though those of the first were free. In 43.3 per cent none of the glands suffered, while it was only in 13.3 per cent of the cases in which the first line were diseased that the second were entirely unaffected. Hard, enlarged, infiltrated glands often proved not to be cancerous, while foci of the disease were found in quite small ones; and such foci were found not only in the glands but in the connective tissue, lymph spaces, and even in the veins between them.

These results show that the complete radical removal of carcinoma of the uterus, with all carcinomatous glands in relation with it, is possible only in the most exceptional cases in which the glands are affected at all.

In the latter part of the article Schauta gives clinical evidence in favor of the vaginal method as extended by Schuchardt's supplementary incision, and deprecates the general adoption of the abdominal radical operation or any excessive search for cancerous glands.

The Treatment of Cancer of the Cervix Uteri in Advanced Stages.

J. Wesley Bovee (*American Medicine,* Jan. 7, 1905) says that severe surgical operations involving appreciable mortality rates or a marked degree of additional suffering should not be employed in the treatment of carcinoma of the cervix uteri, except in very early cases.

According to the reports of the exhaustive microscopic examinations in serial sections of the tissue surrounding the uterus in cancer of the cervix, we have no means of knowing before operation that eradication is certain in any given case of this disease, and hence such attempts must be reserved for the very earliest and most promising ones.

The galvanocautery offers the best prospects for prolonging life, relieving pain, and lessening discharges in all other cases.

A Plea for Conservative Operations on the Ovaries.

James H. Cokenower (*Journal of the American Medical Association,* Dec. 17, 1904) says operations on the ovaries that preserve the menstrual and reproductive functions should be employed when possible, in lieu of complete extirpation.

Healthy displaced ovaries may be anchored to the posterior surface of the broad ligament or by shortening the infundibulopelvic ligament.

Sterile women and married women who are using means to avoid pregnancy are unfavorable subjects on which to do conservative operations on the ovaries.

Conservative operations should be avoided on all pus cases as a general rule.

The Results of Suspension Uteri.

D. Stone (*American Journal of Obstetrics,* December, 1904) has investigated the results in 767 operations. The advantage of Kelly's operation is due to the frequent necessity for opening the abdomen in order to treat some condition associated with displacements. The abdomen once opened in the middle line, suspension is preferred to making additional incisions for the Alexander-Adams operation. Suspension, too, succeeds in holding the uterus in a position which does not interfere with the progress of labor. Amongst the cases investigated there have been

49 full-term deliveries with uniformly successful results. When retorversion is associated with downward displacement fixation rather than suspension should be done, in addition to plastic operations. Fixation, however, should never be done in a patient who is not past the child-bearing period.

Conservative Treatment of Affections of the Uterine Adnexa.

George T. Harrison (*New York Medical Journal,* Jan. 7, 1905) says that the attitude of modern gynecology toward inflammatory affections of the adnexa is eminently a conservative one. It recognizes the fact that in the majority of cases it is not the disease that threatens life, but rather the operative procedure. Radical operations, involving the removal of all the internal genital organs, are reserved for those cases in which life is jeopardized by a continuance of the disease.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
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The Treatment of Acute Anterior Poliomyelitis by Nerve Transplantation.

Spiller and Frazier report two cases of nerve transplantation in the *Journal of the American Medical Association* of January 21, 1905. While tendon nerve transplantation has been hitherto tried with more or less success, nerve transplantation is a newer procedure, yet having some advantage. As to the time for operation, these authors think that nothing should be tried within six months, and that at the expiration of this period is probably as suitable a time for the operation, although recovery might still be possible from operation at a later date. Their first case was one of over two years' duration, in which the anterior tibial muscle alone was paralyzed. An incision was made 10 centimeters in length downward from the head of the tibia in the bony axis of the leg, exposing the peroneal. Following the nerve down three divisions were found: (1) the fasciculus of the nerve supplying the upper part of the anterior muscle; (2) the anterior tibial nerve; (3) the musculocutaneous. They decided to take the

upper division, and perforating the external division, the musculocutaneous, the former were united to the outer side of the latter by fine catgut sutures. Small instruments were used and the nerve handled as little as possible.

Operation was done December 4, 1902; the child was presented before the Philadelphia Neurological Society February 24, 1903, when some improvement in the movement of the anterior tibial muscle was apparent, and at a later date the improvement was decided, the gait nearly normal, and the child able to draw up the inner side of the foot with almost normal power.

About two months after this operation Frazier performed a similar operation in another case of poliomyelitis with less marked improvement, although the mother felt confident that improvement in gait had followed. Such an operation will have obvious advantages if experience can prove it to be crowned with frequent success.

Nervous Symptoms in Children Due to Uncorrected Refractive and Muscular Errors.

In the *Journal of the American Medical Association* of December 10, 1904, Dr. J. Herbert Claiborne interestingly analyzes the nervous symptoms due to certain uncorrected ocular defects, and thus summarizes his conclusions:

1. Nervous symptoms of a variety of kinds occur as the result of eye-strain.

2. Eye-strain is due to refractive errors, to imbalance of the external ocular muscular system, or, more frequently, to a combination of the two.

3. Of these two, the refractive errors are by far the more frequent cause.

4. Muscular imbalance alone may cause it.

5. Headache is by far the most common nervous symptom in children, caused by eye-strain.

6. The headache is chronic or induced directly by near work, and is generally in the forehead or temples.

7. Migraine or hemicrania, due to eye-strain, is comparatively rare in children.

8. Any nervous symptom in children should arouse the suspicion of ocular defects, either as the direct or a contributory cause.

9. The refractive correction should be made under atropine.

10. Muscular defects are secondary to the refractive, and should be corrected only in certain cases.

THE MEDICAL AGE

Vol. XXIII. DETROIT, FEBRUARY 25, 1905. No. 4.

ORIGINAL CONTRIBUTIONS.

A SYMPOSIUM ON SYPHILIS.

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AND

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I. GENERAL REMARKS.

The dominating religious and social views of the Occidental countries give syphilis and its manifestations an exceptional position in the popular consciousness. It receives the stigma of an exceedingly repugnant and detestable affliction, an affliction which has as a sole cause sexual excess, and even the bare sound of this disease, the mere name of it, breathes repulsion and permeates the mind of the reader with vague notions, inviting in its train a host of unclear and erroneous conceptions, imaginary pictures of manifold tortures and interminable torments.

It is indeed to be deplored that even in the present era of clinical investigation and medical research there should be practitioners attempting to pervert the true nature of this affection and unreservedly relegating it to the province of excesses *in Venero;* or at least continually adhering to the venereal origin of this malady, not paying heed to the hereditary and accidental mode of transmission, but persistently and prejudiciously regarding each and every case as derived from sources sexual, and denoting extreme skepticism whenever the origin of this disease is placed extragenitally. No unbiased clinician and syphilographer, however, will venture to deny the extrasexual mode of inoculation, and the authors of this article have repeatedly had

the occasion to witness cases properly belonging to the above category.

The epidemic of syphilis which held sway during the latter part of the fifteenth century was the initiative for the establishment of a *dormant or latent* form of the affection, which, though reposing in this state for several generations, broke forth suddenly in a subsequent generation with renewed vehemence and intensity. It had been that great factor which prepared and cultivated the soil most effectively and imparted to the structures of the human economy a vulnerability toward the entrance of numerous and nameless pathological conditions. To quote Professor Koch, "Every one harbors a particle of tuberculosis," a quotation which may appropriately be applied analogically to the topic under discussion, so that it may be said that a particle of syphilis clings to every individual, a vestige left behind after its ravaging spread during the latter decades of the fifteenth century, a mark which, though devoid of its former intensity, remained a mark nevertheless, of course in an attenuated form. For there are authenticated cases on record of syphilitic manifestations making their appearance in persons who were morally above suspicion, in whom even no extragenital cause could possibly be detected, and in whose immediate progeny there was no trace of such a malady. Perhaps—and there is no other solution of the problem—some of the more remote antecedents were unfortunately the recipients of this morbidity, which has left its imprints upon their descendants, imprints which were called into existence as a spark fanned to life by a favorable wind, a spark which, though hidden from ordinary powers of observation, was still active and dangerous. *This phenomenon is in accordance with other atavistic manifestations.*

The limited sexual sphere wherewith this malady is invested by the laity is cause sufficient to create a morbid conception in the mind of the sufferer. He regards the disease as a just retribution for his excesses, even where there are no excesses at all to be recorded against him. Many patients suffer more from the pressure of this perverted view of their affection than from the latter itself, aggravating through their fear and restlessness the already existing trouble, and thus handicapping the treatment materially. Hence it is the duty of humanity at large as well as of the physician in particular to acquaint the individual thus afflicted of the *precise* nature of this disease, and to dispel all erroneous conceptions and groundless fears pertaining to this malady. On the other hand, those who exhibit an indifferent

attitude toward this affection should be seriously reminded of their negligence and the consequences accruing therefrom. At all times should the practitioner call the attention of his patients to the danger they may convey to their immediate vicinity and the menace they may prove to many an individual, and thus urge upon them the necessity of adopting precautionary measures and undergoing a course of active specific medication.

The origin of syphilis is shrouded in impermeable darkness, and the source and nature of the causative factor which gave rise to it are likewise matters of much speculation and controversy. Suffice it to say, however, that the only detailed and trustworthy accounts have come down to us from the fifteenth century, but this is by no means the nascent period of its first existence. On the contrary, this affection has existed from, we might almost say, times immemorial. A description of symptoms closely resembling syphilis is found mentioned in several places in the Old Testament. Thus Job, it is said, had been afflicted with the manifestations of the so-called secondary stage of this affection. A number of Roman and Greek writers indicate with a tolerable certainty the existence of lues during the time of the Roman emperors and the early episodes of Greek history. Ancient Hindustani manuscripts, as for example the Susruta, and Japanese and Chinese writings on medicine, speak of a disease having all the signs and the clinical aspect of syphilis. The former of these writings belong to the seventh while the latter fall within the ninth century. Then again we have authentic narratives of cases of lues having occurred at least two centuries prior to the great epidemic. At all events there is reason to believe that syphilis was not as prevalent a disease then as it is now, with the exception, of course, of the formidable epidemic mentioned before.

A complete change, however, took place during the latter decades of the fifteenth century, an epoch when syphilis spread with ravaging and overwhelming rapidity throughout the entire continent of Europe within an astonishingly short time. Not alone did it invade the Old World, but also the dependencies of Europe; and not only did it encompass a large territory in its travel, but the severity of the attacks was such that there is no like to it in the annals of epidemiology. It was one of the most horrible epidemics in the history of mankind. For nearly four decades after this epidemic syphilis retained its original severe character, when gradually a retrogression or rather an amelioration became apparent in the individual attacks, and ultimately it assumed the type we meet nowadays. No wonder, then, that this "new affection," as it was designated in those times, of which

we have but the most meager and unreliable data, should become one of the most feared scourges threatening humankind, and one of the best known diseases extant from a clinical point of view. A whole array of reports soon followed this episode, which picture to us the salient symptoms of this disease and relate the modes of transmission and inoculation in a most lucid and admirable manner. Theoretically we often detect in these reports discrepancies, ambiguous ideas, not at all in accord with modern views on the subject under consideration.

Syphilis is a malady which spares neither young nor old. It may be met with among all races and classes. Of course, certain periods of life are more favorable for its advent: thus it is seldom, if ever, seen before puberty, unless acquired non-sexually. Certain strata of the populace have the sad privilege to contract lues oftener than others. It should be understood that these are only conditional factors, which in no way detract anything from the nature of the malady *per se*. Apparently the inhabitants of Iceland and Greenland make an exception to this particular instance, if credence be placed in certain reports, which allege that they are not susceptible to the virus of syphilis, and that in spite of the repeated access of the malady by means of navigation, and through, in Greenland, extensively practiced prostitution, it is singular that this affection did not become more wide-spread and did not gain greater foothold there. The Hebrews are also more or less exempt from this disease, not by virtue of any national or racial immunity, but on account of a higher degree of morality—if this expression be permissible—which deters them from excesses and forces them to be abstemious. The natives of the southern portion of Central Africa and Madagascar are likewise relatively immune from syphilitic infection. Whether temperament, which in the northern is largely of the phlegmatic type, has something to do in warding off the toxin of syphilis, or in neutralizing it in event of its entrance in the human organism, or on the other hand, whether it is due to an innate racial or national resisting power and a high degree of immunity, remains to be ascertained. One feature remains true, however, namely, that a sanguine temperament is more conducive toward the acquisition of this malady than an indifferent one, for *"Sine libide friget Venus."*

II. DIAGNOSIS OF SYPHILIS.

The diagnosis of syphilis in the majority of cases is easy, but different circumstances may make it very difficult.

Microscopy and bacteriology have not assisted us in making a diagnosis, but we have to rely on clinical symptoms. Our hopes were raised by the discovery of Lustgarten's bacillus, but disappointment followed when it was found that the bacillus did not fulfil all the requirements of Koch's law. The proof of the bacteriological origin of syphilis has been impossible on account of the inability to inoculate animals, but Lassar now states that he has succeeded in inoculating the chimpanzee, a variety of African ape. It is hoped that his claims will be verified by further experiments.

The occurrence of periods of latency during the different stages of the disease may make the diagnosis difficult. During these periods of latency no clinical signs may be present; the disease seems to be sleeping, while within a very short time it again becomes active. The initial lesion often heals readily, and the swelling of the lymphatic glands related anatomically to the chancre is sometimes not very marked. The general enlargement of the other groups of lymphatic glands is not always present, but often forms a symptom of the later stages of syphilis even in properly treated cases.

Syphilis may affect any tissue or any organ in the body, and this is nowhere so conspicuous as in the great variety of lesions of the skin. The lesions on the skin, according to Hutchinson, may imitate lupus, lichen, psoriasis, etc. The initial lesion may resemble herpes, eczema, chancroid.

It is often difficult to diagnose syphilitic lesions of the central nervous system and other internal organs in the so-called tertiary stage. Syphilis loses its specific character as it grows older, or, as Ricord says, "the more honorable a face it assumes." It should also be borne in mind that a syphilitic patient may contract other acute and chronic diseases, as gonorrhea, eczema, tuberculosis, cancer, etc., and thus obscure the diagnosis.

It has often been said that syphilitics will not tell the truth and are not to be trusted. This is not always the case, and a complete history should be taken of every patient. It will be often noticed, especially in females who are evidently sincere, the denial of knowledge of primary symptoms; the primary lesion may have been so small as to have escaped her observation. The skin eruption is often so slight at first that the patient will say he has no rash, and yet on making an examination the macules are seen on the chest and abdomen. On the other hand, some syphilitics at once ascribe all their aches and pains, all their drug eruptions, all their throat affections, etc., to syphilis.

In making a diagnosis, it is often well to have the patient stripped and the whole body examined; in other cases it may be advisable to expose one portion of the body after the other so as not to arouse the patient's suspicions. The fact should not be forgotten that the disease is often transferred by other means than sexual contact.

If there is a history of primary sore (genital or extragenital), followed by skin rashes, without pruritus, sore throat, and alopecia, it would point to syphilis. In women there is often a history of frequent abortions or miscarriages.

In the hereditary form there is usually a history of "snuffles" and skin eruptions within the first three months after birth.

The nose, mouth, and throat should be examined for lesions, such as destruction of nasal septum and flattening of nose, perforation of hard or soft palate, ulcers, mucous patches, etc. The eyes should be examined for iritis or keratitis.

Scars may sometimes be found in the groins or on the legs, and the primary scar upon the genitals. The testicles may be atrophied or enlarged on account of the disease. The tibia, clavicle, and cranial bones especially should be examined for nodes or necrosis, and the teeth for Hutchinson's sign. The lymph glands may be slightly universally enlarged and indurated.

An ulcerating gumma upon the face may resemble a tuberculous ulcer. In a gumma, indurated grayish spots break down and form deep, scooped-out ulcers, with hard, thickened borders, and leave white, smooth, circular cicatrices. The tubercular ulcer is more shallow, the edges are usually flat and soft, and the scar reddish or purple. An attempt should be made to find the tubercle bacillus, if the diagnosis is uncertain.

The paralysis of single cranial nerves, or anomalous or atypical symptom groups, especially in disease of the nervous system, point to a syphilitic origin. It is almost impossible to diagnose visceral syphilis except by the history of infection and the finding of lesions which are visible and characteristic, as the symptoms usually do not differ from those of non-syphilitic disease.

Potassium iodide is of little value as a test in treatment, as several other diseases are as easily affected by it as syphilis, as, for example, affections of the lymphatic apparatus of the testicle and epididymis, swellings of the bones and joints. Mercury, being almost a specific for syphilis, is the best drug for a test in tertiary affections, unless delay involves danger to some important organ.

III. THE COMPLEMENTARY DERMATOSES OF SYPHILIS.

There are a variety of cutaneous maladies which are apt to follow in the wake of syphilis, but which *per se* are neither the immediate nor the remote results of the same; neither do they resemble in the ensemble or in any particular feature the classical picture of lues. These eruptions are implanted in tissues devitalized or else modified to a certain extent by the virus of syphilis; the tissues have so to say acquired a predisposition, a vulnerability or a certain *modus,* inviting the entrance of a number of extrinsic efflorescences, which, finding a favorable soil, develop most luxuriantly. We wish to reiterate what we have asserted on previous occasions, namely, that all cutaneous disorders require an adequate medium for their development. This medium may be inherited or acquired; in either case we encounter a *cutaneous diathesis,* without which no integumentary trouble is possible, and syphilis is one of the conditions conducive toward the establishment of this diathesis. As already intimated, the dermatoses thus superimposed upon structures altered by syphilitic invasion have nothing in common with eruptions peculiar to the latter, and differ in no respect from similar eruptions occurring under ordinary circumstances.

The above title suggested itself as the most appropriate one to designate this class of cutaneous disorders, conveying clearly the exact character of the lesions.

In the subjoined classification we have endeavored to arrange them systematically, with a view to establish their non-specificity and eliminate all doubt concerning their nature.

The complementary dermatoses of syphilis may be classified as follows: (1) Morbid conditions of the glandular appendages of the skin, which may again be subdivided into (*a*) anomalies of function, (*b*) anomalies of structure. (2) Inflammatory states of the integument. (3) Cutaneous neuroses. (4) Undefined ephemeral dermatoses.

1. *Morbid Conditions of the Glandular System of the Skin.*—The perspiratory glands are never affected to any great extent; the brunt of the process is largely borne by the sebaceous glands, which exhibit either derangement of secretion or actual pathologic states. To the former belong the various forms of seborrhea, to wit, seborrhea sicca and seborrhea oleosa. Seborrhea sicca is more prevalent, however, and is prone to be very protracted, manifesting itself years after all vestiges of syphilis have been eradicated by suitable treatment. To the latter belong

structural alterations in the duct or gland proper. The duct is more frequently affected than the racemose extremity, and acne is thus the result, which occasionally proves very obstinate to treatment; it is characterized by recrudescences after a temporary abatement, and is attended by severer subjective symptoms than under ordinary circumstances. It is apt to occur during defervescence of the later secondary stage, and is not influenced by specific treatment. It yields, however, to the internal administration of ichthyol and the local use of the same agent with adrenalin solution.

There is a peculiar affection attacking the sweat glands which should be mentioned under this caption. It has been termed by Dr. Politzer *Hydradenitis destruans suppurative* (*vide* Politzer, *Journal of Cutaneous and Genito-Urinary Diseases,* January, 1892). This rare affection is characterized by the appearance of hard, painless nodules in the substance of the corium, with gradual increase in size, which eventually become transformed into yellow tubercles. Capillary rupture and transudation of serum take place, which give to the lesion a hemorrhagic aspect. Retrograde metamorphosis commences and converts the transudate into purulent material. Molecular disintegration ensues, a central aperture is formed, out of which shreds of tissue are discharged. A pigmented, somewhat depressed scar remains to mark the site of the former lesion. This disease may continue unabated for months and is very resistant to treatment, at times disappearing spontaneously. Specific medication has no influence whatsoever upon the course of this rare dermatosis. Its pathology may be viewed as a proliferation of the columnar cells lining the ducts of the perspiratory glands, which proliferation may extend to the corium and subcutaneous tissue, ultimately undergoing molecular retrogression and eventuating into pus formation.

2. *Inflammatory Conditions of the Integument.*—Eczema complementing syphilis differs in no respect from eczema the result of other morbid states of the system, except that it exhibits a somewhat angry appearance and is attended by marked exudation. There is, however, a special form of eczema to which we would like to call attention, viz., *ischiorectal eczema madidans rubrum,* which we described more fully elsewhere (*vide* Aronstam, *Columbus Medical Journal,* 1901; quoted in Year-book, vol. 2, September, 1901), but from which we would quote the following:

"It is an intractable dermatosis, in which the lesions appear on the gluteal area, ischiogluteal spaces, perineum, scrotum, and

hypogastric region, and consist of: (*a*) Macular lesions, bright-red in color, unaccompanied by any subjective symptoms, but with marginal induration, located upon the perineum; (*b*) papulovesical lesions, with considerable moisture, accompanied by smarting, burning, and itching, and confined to the gluteal regions; (*c*) squamous lesions and fissures, distributed over the scrotum and hypogastrium; extensive, confluent crusts, glossy in appearance, somewhat pinkish in color, and of about one-sixth of an inch in thickness; these crusts crack or fissure, exposing the delicate corium. Beneath the base is indurated, reddened, and shining. Subjective symptoms cause much discomfort, especially at night. There are faint, mixed lesions on the inner surfaces of the thighs. The general condition of the patient is good; food is properly digested and assimilated, the excretions are normal, etc. The lesions are chronic and stationary in character, as regards their form."

Except the form above depicted, eczema yields readily to adequate local treatment.

Dermatitis occurring in this connection may assume an intense character, not infrequently occasioning severe loss of substance. It manifests itself in the form designated as *dermatitis gangrenosa.* Phagedenic destruction of tissue is one of the sad complications of this affection, jeopardizing the life of the patient, entailing upon him extreme suffering, exhausting his vitality, and finally tending toward a lethal issue. Dermatitis gangrenosa occurring upon an integument once stamped by the ravages of syphilis is one of the most intractable and dangerous dermatoses in the domain of dermatology.

The above is also applicable to *erysipelas,* which partakes of a malignant nature; embolism of the lateral sinuses and secondary inflammation of the serous surfaces, especially of the synovial membranes and pericardium, may lead this affection to a fatal termination.

3. *Cutaneous Neuroses.*—This class of cutaneous diseases is the most predominant of the complementary dermatoses of syphilis. It is in the majority of cases caused by a disturbance in the equilibrium of the vasomotor nervous system, either peripherally or centrally. Vasoconstriction is partially or totally abolished, the peripheral vessels dilate and allow the transudation of serum, which raising the epidermal layers favors the appearance of pomphi or wheals, so pathognomonic of this class of dermatoses. Without dwelling at length on the etiology of cutaneous neuroses, suffice it to say that in 75 per cent of cases

they are either the results of absorption of ptomaines or toxins from the alimentary canal, due to ineffectual digestion or decomposition of albumens, or else they are the effects of a perverted state of the vasomotor nervous system coincident to a general neurasthenic tendency of the individual.

Urticaria—a representative of this class—in its various forms is of very frequent occurrence, invading at times the entire surface of the skin and giving rise to marked subjective phenomena. *Urticaria pigmentosa*, limiting itself to the trunk and upper extremities, is another very interesting member of this group.

To the same category belong the various types of *herpes*. They are, next to the urticarial rashes, the most frequent skin affections complementing syphilis. *Herpes labialis* may prove a constant annoyance to an individual and shows marked obstinacy toward treatment. It is apt to recur, and not infrequently taxes the patience and ingenuity of patient and physician respectively. *Herpes progenitalis* attacking the prepuce and sulcus of the glans penis, the inguinocrural fold, and perineal region, is quite often met with during the later period of the secondary stage of syphilis in individuals who have never been subject to attacks of herpes before (*vide* Aronstam, in "A contribution to the study of herpes progenitalis," MEDICAL AGE, December, 1902).

4. *Undefined Ephemeral Dermatoses.*—They are maladies which cannot be included in any of the above. They are, as the term implies, evanescent and bear much resemblance to the cutaneous neuroses, but differ from them in one particular phase, namely, *the absence of subjective symptoms*. They are subjectively viewed entirely indifferent, so much so that the patient is unaware of their existence until his attention is peradventure called to their presence. They present themselves in *linear* or *crescentic* formations and are erythematous throughout, never changing to papules or other progressive lesions; they remain stationary for a very short period, subsiding as abruptly and insidiously as they appeared, and leaving nothing to indicate their previous existence; their favorite location is the abdomen. That treatment is unnecessary is obvious. They are in the strictest sense of the term the *only complementary dermatoses of syphilis*, as no other disease or cachexia furnishes a similar affection displaying such a unique clinical picture. They are non-syphilitic in nature.

In accordance with the above résumé of the subject under consideration we are enabled to draw the following conclusions:

1. That the complementary dermatoses of syphilis are non-syphilitic in nature.

2. That they differ in no way from similar dermatoses occurring under ordinary circumstances, except that they present severe types of the same.

3. That they are prone to be protracted and exhibit marked obstinacy toward repeated attempts at eradication.

4. That they are uninfluenced by specific medication, which on the contrary may occasionally intensify the lesions.

It is needless to say that the above is rather a brief summary of a subject that demands a more systematic elaboration.

(*To be continued.*)

THE NATURE AND TREATMENT OF UREMIA IN THE LIGHT OF RECENT INVESTIGATIONS.

BY C. WILLIAMS, M.D., PHILADELPHIA, PA.

In the discussion of the nature of uremia we find two sets of authorities—one in which the symptoms are referred to a more or less mechanical cause, and the other in which the cause is sought for in some toxic substance present in the human organism. The mechanical theory of uremia has not met with many supporters; this theory regards uremia as produced by alterations in the cerebral circulation, leading to constriction of certain vascular areas of the brain, or else it is due to edema. This view was based on the experimental fact that the ligature of the carotids and the subsequent anemia of the brain was a mode of producing convulsions and epileptiform seizures similar to those met with in certain forms of uremia, and there can be no question that interference with the cerebral circulation to such an extent as that effected by ligature of the carotids is an efficient cause for the production of epileptiform seizures. Consequently as high tension is common in renal disease, the cerebral vessels, like those of the body at large, are constricted, and in this way produce the anemia necessary for the production of epileptiform seizures. As the high tension of renal disease is sometimes present without any gross changes in the walls of the blood-vessels, being presumably due to spasm of the muscular coat produced either indirectly through the vasomotor system or directly by the action of some toxic substance circulating in the blood, so the anemia producing epileptiform seizures might be a temporary condition dependent upon a functional spasm of the

cerebral blood-vessels, or in more chronic and persistent cases might be due to permanent narrowing of the vessels dependent on changes in their walls. The alleged narrowing of the cerebral vessels was always connected with a high tension of the pulse. It was supposed that the condition of the cerebral vessels and circulation could be gauged by the state of the peripheral vessels. In the high tension of renal disease there is a hypertrophied heart and an increased peripheral resistance; the cardiac hypertrophy is produced secondarily to the primary increase in the peripheral resistance. To some authorities the thickening and narrowing of the peripheral vessels is a secondary change following an increased blood-pressure dependent on the primary hypertrophy of the heart, and this cardiac hypertrophy is brought about by the direct action on the heart muscle of some urinary constituent, such as urea, present in the blood in excessive amount.

This mechanical theory of uremic convulsions, as depending on the cerebral anemia, was accepted because cerebral anemia can be proved to be a cause of convulsions, and as this view explains the more or less localized seizures sometimes seen in uremia. But unfortunately for this theory, the recent work by Hill on the intracranial circulation alters the theory of the dependence of the cerebral circulation on that of the body; although nerves could be demonstrated on the vessels of the pia mater, yet there was no experimental evidence in favor of the existence of cerebral vasoconstrictor nerves, notwithstanding the fact that the cerebral vessels possess a well-developed muscular coat. Hill showed that the cerebral circulation is regulated in what may be called a secondary manner by changes in the visceral circulation; all conditions in which the blood-pressure is raised by increasing the peripheral resistance produce dilatation of the cereberal vessels. By acting on the vessels of the body at large, either by excitation of the vasomotor center or by the action of drugs which cause constriction, it is impossible to produce constriction of the cerebral vessels; if the agent employed is one capable of causing cerebral constriction, the general vascular constriction produced simultaneously raises the blood to such an extent that the cerebral vessels are passively dilated by the increased blood-pressure produced by the general visceral constriction. When increased tension is produced by increasing the peripheral resistance the blood-vessels of different parts of the body are affected to different degrees, so that an agent which causes constriction of blood-vessels of the visceral areas may lead to dilatation of the vessels of other areas—not owing to any difference in the action on the

two different sets of vessels, but to the fact that the constriction in the one case is more powerful, due to a better development of the muscular coat or a more copious innervation of the vasoconstrictor nerves; and this heightened tension overpowers the constriction in the areas where either the muscular coat of the blood-vessels or the innervation from the vasomotor center is less well developed. Constriction of the cerebral vessels may be produced passively by dilatation of the vessels of the visceral and other regions. These facts are of supreme importance in understanding the mechanism of cerebral hemorrhage in renal disease, for the mere existence of high tension in renal disease, with or without arterial changes, such as endarteritis, etc., is not to be looked upon as proof that there is a state of cerebral amenia. Even if in renal disease there is some agent present which is capable of causing heightened tension dependent on vasomotor constriction, such a condition would tend to be accompanied rather by cerebral congestion than by cerebral anemia. Constriction of the cerebral vessels producing diminished blood-supply is capable of producing convulsions; and as heightened arterial tension tends to produce cerebral congestion rather than cerebral anemia, the idea that uremia is dependent solely on the alterations in the caliber of the cerebral vessels is erroneous.

Carter believes that the primary agencies in uremia are certain alkaloidal substances which cannot be excreted on account of inefficiency of the kidneys; the variations in quantity of these substances, due to varying conditions of vascular dilatation and blood-pressure, delivered to one or other locality of the brain or to its entirety, may go far toward an explanation of the apparently widely separated phenomena of uremic attacks. These chemical substances are: (*a*) urea; (*b*) ammonium carbonate from changes in the vascular system or from resorption from the alimentary system; (*c*) potash salts from aliment; (*d*) uroxanthine, urochrome; (*e*) excrementitious matters (ammonemia) and organic poisons (ptomaines). Of these urea is really of the least significance, while, after excluding excrementitious products and organic poisons, the potash salts are of utmost importance.

Jaksch accepts practically the same view of uremia, that it is caused by the action of certain poisonous substances contained in the normal urine, which, on account of the inefficiency of the renal functions, cannot escape. He differentiates ammonemia as engendered by certain alkaloidal substances occurring in the urinary tract beyond the kidneys from urinary decomposition, and reabsorbed into the system by the altered mucous membrane of

the tract. Moreover, these uremic manifestations are common in conditions of high tension, since we have seen that if the cerebral circulation be affected at all in conditions of high tension, congestion rather than anemia would be produced. Uremia is probably associated in some indirect way with high tension, and more especially with some varieties of high tension, being closely associated with the small, contracted, white or mixed kidney, where the lesion, especially in its naked-eye features, is quite different from that seen with the true granular kidney. With the small, contracted, white kidney high tension is often a prominent feature, and when present cardiac hypertrophy and arterial changes are well marked. It is remarkable, however, that extreme cases of contracted white kidney may exist with little or no cardiac hypertrophy, and this even where the contracted white kidney shows great diminution in the area of the cortex, and where, after stripping the capsule, an exceedingly granular surface is left. This is the more constant condition; occasionally, however, small white kidneys are seen where, after stripping the capsule, a comparatively or even perfectly smooth surface is left; this, again, is very exceptional, and it is probable that the origin and natural history of these different forms of white kidney are different. Although high tension is seen with all its accompaniments—cardiac and arterial both in cases of granular kidney and in those of contracted white kidney—cerebral hemorrhage is far more common in the former and uremia in the latter. Occasionally uremia is seen in cases of the true granular kidney and cerebral hemorrhage in cases of the contracted white kidney, but the former statement is the more correct.

The contracted white kidney is much more often seen in young patients, and the true granular kidney in the middle-aged or elderly. Acute uremia is more often seen in young patients suffering with renal disease than in older people. Although uremia may occur, and does occur, in all forms of renal disease, yet the more severe manifestations of this condition are more especially associated with the contracted white kidney. This is certainly true if the uremia of chronic renal disease only is under consideration; but, of course, acute renal diseases of various kinds are necessarily common causes of acute fulminating uremia. Rejecting the mechanical theory there remain only the toxic theories, and, speaking broadly, the toxic theories may be divided as follows: (1) That the toxic body is the product of the normal metabolism of the body, and is not excreted, owing to the deficient activity of the renal structures; or (2) that the toxic body is one

that is formed in the tissues, owing to an altered and deranged metabolism; or (3) that the toxic body or bodies are dependent on the activity of microörganisms or even of abnormal digestive processes. In the second and third theories retention of these bodies in the blood-stream may also clearly play a part, since the toxic bodies formed either in the tissues or introduced might, under conditions of normal activity of the kidneys, be freely eliminated; but owing to the impaired efficiency of these organs as filters it might be that they are retained, and thus the body is poisoned. The main arguments in support of the third theory are the proneness of the tissues of patients having renal disease to suffer from secondary inflammatory complications, and also the well known fact that even when uremia itself is present secondary inflammations, such as pericarditis, pneumonia, pleurisy, etc., are common, and the occurrence of an inflammatory complication in such patients may determine an attack of uremia. This view is very unsatisfactory, as these inflammations are characteristic and quite unlike the toxemias resulting from microbic infection.

The alimentary canal may play an important part in the production of uremia, as it is unquestionable that severe uremic manifestations have sometimes been observed as a result of indiscretions in diet, and more especially perhaps as a result of a patient eating food that was not perfectly fresh; here the damaged excretory organs are unable to deal with sufficient rapidity with the toxic bodies introduced. In some cases of granular kidney albumosuria is present; this may be used as an argument that in renal disease there is some derangement of the digestive and absorptive processes. There can be little doubt that patients with renal disease may run great risks from the taking of partially decomposed foods. The simplest explanation is to record the phenomena as dependent on the retention of one or all of the normal urinary constituents, although it is impossible to agree upon which of the urinary constituents is the prime toxic agent. The difficulties in the way of accepting this theory lie in the fact that no substance has been isolated from the urine which is capable of causing all the phenomena characteristic of uremia, and secondly, and more important, that in the human subject suppression of urine does not produce the clinical picture characteristic of acute uremia. If with complete suppression of the urinary functions the symptoms produced are quite distinctive and different from those of acute or chronic uremia, it seems difficult to believe that acute uremia can be dependent on the simple

retention of normal urinary constituents; in the cases of obstruction of the ureter of the only available kidney the symptoms are quite distinct, and consist mainly in weakness, contraction of the pupil, and fall of temperature; the constant symptoms, slight vomiting, and occasional twitching of the voluntary muscles, and even slight edema, may occur. These symptoms persist for a week or ten days, the patient remaining conscious, while fits, delirium, coma—in fact, all the more characteristic features of uremia—are absent. Palsies occur usually in the chronic uremic states in old cases of interstitial Bright's disease, usually in old persons long ill; they are sometimes preceded by various cerebral phenomena; in manner of onset they generally simulate the hemiplegias of central origin, particularly those of cerebral softening. The distribution of palsy varies in the individual cases, but is usually of the hemiplegic type; not so pure, however, as in the real central hemiplegias in that often the face is affected or the palsy limited to a single member. At times motion is completely abolished, but often the palsy only amounts to paresis or muscular weakness of some part of the organism, associated not infrequently with myosis. Those cases in which the paralysis comes on suddenly, just as in an apoplexy, are commonly quickly fatal; where the onset is gradual, especially if the attacks be light and treatment be thoroughly pursued, recovery is very common. Davidson reports a case in which, from the discovery of large bacilli in the urine and the occupation of the woman as a wool-picker, there was some question for a time whether anthrax infection could be excluded, but post-mortem examination confirmed the diagnosis of uremia.

In the matter of treatment, Carter points out the following principles of action, based upon the view of the pathology of the condition taken by him: (1) Cut off the sources of such urinary poisons as we may reach by limiting the ingestion of the potash salts and substituting those of sodium, by the use of the most simple diet (milk), by thorough disinfection of the alimentary tract, by urging to its best the hepatic function, and by care in the nature of nutrient enemata where these are demanded. (2) Directly or indirectly withdraw or dilute the poison by venesection, purging, sweating, transfusion. (3) Oxidize and consume the poison by exercise or the administration of oxygen or oxidizers. (4) Antagonize the toxic manifestations and overcome special symptoms.

More conclusive evidence still has been afforded by the fact that complete necrosis of the cortex of both kidneys dependent

on thrombosis of the renal arterioles produced in the human subject not acute uremia, but the same set of symptoms as those seen in cases of complete calculous suppression. In one patient the cortex of both kidneys was entirely necrotic, and life was maintained for a week without the excretion of any urine. Both in animals and in man a complete and sudden cessation of the functions of more or less healthy kidneys, when produced by such a cause as double calculous obstruction or by such a condition as that just mentioned leading to necrosis of the entire cortex, produces a set of symptoms not only resembling each other but also resembling those seen in animals after removal of the kidneys. The normal constituents of the urine are retained in the blood and tissues in these conditions, so that uremia, acute or chronic, and especially the dyspnea, the coma, and the convulsions, can scarcely be considered as due to the retention of any normal constituents. But if uremia does not depend on the retention of the normal constituents of the urine, the question arises as to whether in the conditions in which uremia originates there may not be the production and possibly the retention of some abnormal substance which might be looked for in the metabolism of the tissues, since many forms of renal diseases, more especially chronic renal diseases, are characterized by great wasting. In granular kidney wasting may not be as prominent a symptom as it is in malignant disease, but it may be the symptom for which the patient first seeks medical advice. In renal disease, where great wasting is present, it is overlooked or mistaken, owing to the anasarca, and is only evident with its subsidence. The emaciation in renal disease is partly due to the imperfect digestion, the nausea, the vomiting, and the diarrhea, which are prominent features in many forms of kidney disease; still it may be present to an extreme extent in cases of contracted kidney without marked symptoms of digestive insufficiency. Removal of large quantities of kidney tissue, such as the half of one kidney and the whole of the other, is followed by great emaciation and by the excretion of large quantities of urine containing increased amounts of urea. Animals with a portion of one kidney approximating a quarter of the original total kidney weight excrete an abundant dilute urine, containing large quantities of urea, considerably in excess of the normal output, and they may excrete during periods of starvation quantities of urea as great as those previously excreted on a full diet. The source of this increased secretion of urea can only be in the disintegration of the tissues, more especially of the muscular tissues. The

condition produced experimentally is characterized by great weakness as well as by great wasting; the urine and urea excreted are greater in quantity than seen in health. These phenomena cannot be dependent on poisoning by the retention of any normal constituent of the urine, and a series of observations have shown that the tissue wasting and the excretion of urea are definitely related to the amount of kidney substance which is left. Both kidneys being removed experimentally in animals, the amount of urea and other nitrogenous extractives present in the blood and tissues is greater than can be accounted for by simple retention, for if a known amount of urea is excreted on a known diet, and then both kidneys are removed and during the few days of life no food is eaten, it is evident that if no increased production of urea occurs in the tissues the amount of urea retained in the body ought to be less than the sum of the amounts that would have been excreted on the previous diet. As a matter of truth, the quantities of urea that can be found in the blood and tissues after double nephrectomy on the third day are greater than the theoretical amounts that should have been retained. Great diminution in the amount of available renal tissue is followed by a disintegration of the tissues with an overproduction of urea and other nitrogenous bodies, which would point to the conclusion that the renal tissue has some other function than that of simply excreting the materials which are brought to it by the blood; this theory allows the possibility of uremia being dependent not so much on the retention of normal urinary constituents as on the abnormal production of other bodies of an unknown character, the source being tissue disintegration.

In many cases of acute uremia, even during the period when uremic symptoms are prominent, the patients pass considerable quantities of urine and urea, and acute uremia is by no means necessarily accompanied by complete suppression, even when the uremia is very acute and severe. This is more especially true of the acute uremia seen in chronic contracted kidneys. These facts would seem at first sight to point to the conclusion that the kidneys possess an internal secretion, and that the cessation of this internal secretion is followed by the disintegration of the tissues and the possible formation of toxic bodies. Unfortunately the great difficulty in the way of accepting this view of uremia is the fact that neither in the human subject nor experimentally does acute uremia follow on the removal of all kidney tissue; under these circumstances latent uremia occurs. Acute uremia is more especially seen as a terminal phenomenon in cases of

chronic renal disease, such as the contracted white kidney, and no explanation of uremia would be satisfactory which does not take into consideration the great tissue disintegration which can be recognized both experimentally and clinically to follow diminution in the active renal tissue. Although acute uremia is so frequently seen in those cases of chronic renal disease without the existence of any high degree of suppression, yet on the other hand acute uremia is often seen in cases of acute disease where suppression, often complete, is present. Complete suppression occurring with calculous obstruction, or with complete and sudden arrest of the circulation of the kidneys, more or less healthy up to the time of the vascular occlusion, in both cases is characterized by the supervention of the characteristic symptoms of latent uremia. Secondly, acute uremia, with coma, delirium, convulsions, dyspnea, and all the classical features, is not seen under these circumstances, but is seen as a terminal phenomenon in cases of chronic renal disease, and more especially is this so with the contracted white kidney; under these circumstances there may be comparatively little suppression, the patient passing quantities of urine and urea which are quite considerable when the scanty diet and the severe vomiting are taken into consideration. Although the latent uremia of the first group of cases may be dependent on the retention of the normal constituents of the urine, it is probable that the uremia of the second group of cases is of more complex origin, and that here the tissue disintegration with the overproduction of nitrogenous substance, which can be proved to take place experimentally, is a factor in its production. This theory will not be satisfactorily established until the toxic bodies or body have been isolated, and this at present has not been done; in cases of chronic renal disease with dropsy, where there is a certain amount of suppression, and in cases of uremia with acute nephritis, where there may be complete suppression, the problem is still more complicated. It must always be remembered that the same substance in different doses may produce different symptoms; but it is probable that all varieties of uremia cannot be regarded as dependent upon simple retention of a single normal constituent of the urine.

Many curious accidents occur in uremia, such as one Rose reports of a case of nephritis where the patient suddenly became monophasic, and could say nothing but "ja." Soon after uremic convulsions came on. After the uremia had been controlled the aphasia passed off. Rose considers the cause of uremic aphasia probably a circulatory disturbance in the neighborhood of the

middle cerebral artery. Richardiere describes a case of uremia in which there were dyspnea and pain at the angle of the jaw, with swelling of the parotid glands. This persisted for four or five days, and then vanished. The cause of parotid swelling in uremia may be excessive secretion, or, as is quite frequent and was the case with this patient, when the secretion is not increased the condition is probably due to qualitative changes in the saliva. Atkinson notes that there seems to be a relation between the parotid gland and the generative organs, and he especially points out that this gland seems to show a sympathy with disease of several of the abdominal viscera.

Again, uremia has been claimed to be very persistent in certain types of other diseases such as Plicque reports, where he calls attention to the occurence of uremia in phthisical cases, in comatose, apoplectiform, delirious, or convulsive form; and many of these cases may be difficult to diagnose from cerebral tubercle and from tubercular meningitis. Meningitis is usually excluded by its slower onset, the more localized convulsions, the hydrocephalic cry, the dilated pupils, and the localized paralysis. There is a dyspneic form, which should be suspected when the dyspnea is out of proportion to the pulmonary signs. The uremia may also assume a gastrointestinal form. The most common error is to attribute attacks of uremia to the tuberculosis itself, but there are instances on record in which meningeal tuberculosis in phthisical subjects has been called uremia. Albuminuria arising in phthisis always makes the prognosis much graver, but there is a distinct antagonism to phthisis in cases that have had Bright's disease previously, which is probably explained by the fact that the lungs are somewhat edematous or sclerosed in such individuals.

The indications as to treatment are to eliminate the poison and neutralize it as far as possible. Diuretics will often accomplish the first indication, and for this the potash salts are often employed, but their poisonous effects are such that the amount taken must be limited. Infusion of digitalis also presents objections when the kidneys are almost impermeable or the renal tubules clogged, when there is a spasmodic vascular condition or a passive hyperemia, for it tends to increase the contraction and hyperemia, and as the kidneys cannot eliminate it there is a cumulative result, accompanied by obstinate nausea and vomiting; it increases uremic symptoms when given in large doses. When weak heart is a primary factor in uremia, digitalis can be given with good results in some cases. Diaphoresis and active purgation remove considerable water from the body, but when

compared with bloodletting the poisons removed are about nine-tenths less; less water will pass through the kidneys, and they will recover less rapidly. Stewart uses moderately cold water by high enemata, with the object of causing contraction of the renal vessels through reflex stimulation of the abdominal nervous centers, and by increasing vascular tension through absorption of the water and filling the vessels, thus promoting diuresis and diluting the poisonous matters in the blood; some of the injected water is expelled with fermented ingesta, but much of it is absorbed. Use the injections at blood-heat, to which has been added 1 per cent of common salt; give several times daily with a douche-bag and a medium-sized, long, soft catheter of red rubber attached to the nozzle of the douche-bag, with the patient in the dorsal decubitus. When other means fail try venesection or bloodletting with cups or leeches; coma and convulsions sometimes disappear during this treatment. Twelve to twenty ounces can be drawn from a robust, plethoric patient, but in delicate subjects caution must be observed as to the amount taken, and in some cases the blood abstracted must be replaced by saline transfusion. "The operation of transfusion in the treatment of uremia may be at times very useful in tiding over an imminent period, and perhaps in enabling the patient to recover, when without operation he would surely die." When these methods are contraindicated hypodermic injections of warm sterilized soft water (1 per cent) should be given; as a rule they are free from pain, and are absorbed even though the patient is at the lowest ebb. Uremic conditions coming at the end of acute or exhausting diseases are greatly benefited by these injections. In one case half a pint of salt solution was injected hypodermically. Chloroform anesthesia is very safe, is indicated in uremia, and in convulsions previous to bloodletting, so that contractions may not interfere with accurate venesection, the administration being guided by the pulse.

Opium is rarely of value, while chloral given by the mouth or rectum may replace it with good results, if administered in moderate doses. In one case pilocarpine hastened death, which was preceded by profuse salivation, edema of the lungs, and profound heart weakness. It is beneficial if it produces diaphoresis only, without other untoward effects. The author recognizes that these remedies do not meet the underlying pathological causes, and for this reason places great stress upon diet. Milk is his sheet-anchor, but eggs, cheese, and boiled meat may be added very cautiously and under rigid instructions. Intestinal

fermentation is a great exciting cause, and must be met with intestinal antiseptics. Among symptoms requiring attention are dyspnea and congestion of the lungs, which are met by counter-irritation and cupping; great oppression of breathing by inhalation of amyl nitrite or nitroglycerin, or oxygen and nitrogen in combination; delirium by chloral; nausea by lime water, Vichy, brandy, or iodine; and collapse by hypodermic injections of coca, strychnine, or ether.

The blood always contains less urea than do the tissues; nervous tissue, the spleen, and muscle contain a proportion of urea which is about similar in all; the liver contains a proportion of urea which is about double that contained by any other tissue.

Stewart summarizes the influence of piperazin on the urine, and especially on uric acid and urea excretion, as follows: "So far as I can see, since piperazin does not increase uric acid excretion, and apparently does exert a salutary effect upon the uric acid condition, the only mode of action possible is such as has been attributed to certain of the alkalies, the vegetable acid salts of potash. The increased alkalinity of the blood these latter produce is supposed to promote oxidation, increasing the formation of urea, and perhaps also transforming a modicum of the uric acid by oxidation into the former, or into a second more oxidized product than uric acid, such as bodies of the alloxan or allantoin series."

The eighth meeting of the International Congress of Veterinary Medicine is to be held this year at Budapest. It will comprise three sections: (1) Veterinary Sanitary Police; (2) Biology; (3) Pathology. Among the questions to be dealt with in the first of these are the prophylaxis of domestic animals against tuberculosis, and in particular the antituberculous vaccination of bovine animals, and the prevention and extinction of rabies. In the section of biology the question of dairy hygiene and the prevention of milk contamination will be discussed. The milk question, especially in its bearing on the dissemination of tuberculosis, will also be debated in the section of pathology. Among other questions on the programme of this section are the relations of human to bovine, avian, canine, and other animal forms of tuberculosis; cancer in domestic animals; the tropical diseases of domestic animals; the part played by protozoa in diseases of animals; the most recent experiments as to the transmission of diseases from animal to man.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

MEDICAL EXPERT TESTIMONY.

Medical experts have achieved an unfavorable reputation as to truthfulness, which is wide-spread among the medical and legal professions and among the laity. Yet we usually find that, individually, the men who have achieved this reputation are honorable and truthful, and certainly the medical profession as a whole bears this reputation. It is inconceivable that experts are summoned time after time, after having demonstrated their unreliability, and equally so that, in obtaining fresh witnesses, the least reliable and honorable part of the medical profession is drawn upon. Yet the fact remains that the general impression received by judges, jurors, and spectators is of testimony which is contradictory, biased, quibbling, and generally unsatisfactory.

In attempting to explain the production of untrue testimony from an honorable source we are guided by no theoretic notions, but by actual experience at courts. We believe that the majority of witnesses in court, whether called to testify as to personal observations, or, as experts, to base conclusions upon the testimony of direct witnesses, are sufficiently honorable and sufficiently impressed with the sanctity of an oath, or even with the theologic and legal penalties of perjury, to desire to state "the truth, the whole truth, and nothing but the truth."

That discrepant statements are made by different witnesses, or even by the same witness at different times, is easily accounted for by the fact that our ordinary conception of occurrences is derived from a number of sensations often hastily and imperfectly received, and that we habitually jump at conclusions and are very liable to forget actual occurrences, or to imagine what has not happened, according to experience in somewhat similar cir-

cumstances. Thus, minor contradictions are recognized by jurists as inevitable, and, indeed, a unanimity as to details would arouse a suspicion on the part of any student of testimony that the case had been worked up in advance. That witnesses may tell something else than the simple truth is due to our natural habit of confusing conclusions with actual observations, and the telling of less than the whole truth, while often a form of deliberate perjury, may be due to the desire on the part of the witness or the court or attorneys to exclude irrelevant testimony.

To confine our attention to the part of the expert witness, we find, first of all, that he is unable to view the case directly, but that he must base his testimony entirely on hypotheses presented to him primarily by the testimony of witnesses who are, in general, not particularly competent to make the primary observations, secondarily by attorneys whose object is to present this testimony in a partisan light.

Secondly, according to existing conditions, the expert is employed and paid by one or other of the parties of a suit, and is, therefore, inevitably a partisan.

Thirdly, as we have previously pointed out, jurists do not yet recognize, at least not in a practical way, the distinction between an expert consultant attorney and an expert witness. At present these two functions are combined in such a way that often neither is well performed.

Fourthly, it seems to us that the main obstacle to securing satisfactory and convincing expert testimony is the method of eliciting testimony established by legal precedent. Practically never is an expert or any other witness allowed to present his testimony in his own words, and following his own line of thought, and using such qualifications as are necessary to give a proper conception to the jury. In the commendable effort to exclude testimony that is not pertinent and to avoid hearsay evidence or conclusions not based directly upon facts already established, the witness is restricted to categoric answers to questions, plied by attorneys with interested motives, and, in regard to technical matters, usually very vague knowledge of the subject. If there has been discrepant direct testimony accepted by the court, the opposed attorneys may submit to the expert lengthy hypothetic questions requiring diametrically opposite answers. The endeavor of a conscientious expert to weigh the testimony and to frame an opinion consistent with the general weight of evidence is almost invariably ruled out, and the only

correction of a misleading statement, forced by this system of question and answer, at present possible is by a leading question on cross-examination or redirect examination. Often the attorney who should develop such a revision of testimony is technically incompetent to do so, and here we see one of the vital needs of a separation of the functions of witness and consultant. The expert on the stand who has been inveigled into a reply that conveys a false notion to the jury can neither explain his position nor suggest to his attorney the proper line of cross-questioning to develop a strictly truthful statement. Again, the discretion of the judge is so ample that he may at one time allow a seesawing of cross-questioning, and may at another time shut off an examination at a stage when a very incorrect impression has been left with the jury.

We need not, at this time, consider the deliberate browbeating of witnesses, the innuendoes as to their competence, nor the confusion of a nervous witness. While the protection of the court should be more freely extended to witnesses than is often the case, the better class of lawyers do not resort to such devices, nor are the more competent expert witnesses seriously disturbed by them.

Another element of uncertainty is the general principle that books cannot be used as evidence, and yet the conflicting custom of allowing their use in an indirect manner. For instance, one attorney mentions the name of an author in whose book he has found something to his purpose. If the witness is unfamiliar with the work in question, his competence is questioned. If he recognizes the authority at all he is almost inevitably compelled to swear to his general credibility. Then the passage desired is read. It may be such as to give an entirely false idea of the author's meaning, by lack of context, or it may be a very special consideration of a phase of a subject to which a general meaning is attached by the attorney, or it may be a discredited hobby, or a hyperbolic statement useful enough as an illustration to a student of medicine, but entirely out of place as a guide to a jury. For instance, an author states that a cold in the head is essentially a septic process, which is true enough as indicating to a student a phase of the general action of bacteria, but wholly misleading as a practical guide to a jury in deciding as to the origin of a septicemia.

In our opinion experts should be servants of the court, or even permanently appointed adjuncts to the judiciary, selected impartially on account of merit. They should be sufficiently

trained as to the rules of evidence, and should then be allowed to express their opinion with no more interruption than a judge delivering an opinion or a charge to a jury.

EDITORIAL NOTES.

Milk Bottles Made of Paper.

The subject of pure milk is one that has interested the profession for some time past, and any device that tends toward keeping milk fresh and pure deserves consideration. The usual glass bottle in which milk is delivered is not a cleanly arrangement owing to the fact that milkmen, as a usual thing, depend upon their customers to wash them before returning. Dr. A. H. Stewart in the December number of *Sanitation* described a single service milk bottle made of paper. It is made of spruce wood fiber paper, and is saturated in paraffin at a temperature of 212° F., after which it is baked. This process sterilizes the bottle, and bacteriologic tests made from bottles just received from the manufacturer failed to reveal the presence of microörganisms. Further tests were made between milk in glass bottles and that in the paper ones, with the result that the latter milk was found to contain fewer bacteria than the former. If this device can be made at such a price as not to increase the cost of milk to the consumer its use will be a distinct advance in the problem of obtaining pure milk in large cities.

Sunflower Seeds as Breeders of Disease.

A French physician, Dr. Marcon, states in a foreign exchange that one of the first things that struck him on his arrival in Russia was the prevalence of the habit of chewing sunflower seeds. The seeds, which are agreeable in taste, are constantly chewed by the people, who spit out on the pavements the outer husk. Dr. Marcon thinks the habit a serious menace to the public health on account of the spitting nuisance it engenders. Marcon examined husks picked up in the streets, and in almost every instance found pathogenic germs on them. Koch's bacillus he found no less than twenty times, and the Klebs-Loeffler bacillus in ten instances. This habit, which appears to be a national one, must help greatly in the dissemination of infectious diseases.

ITEMS AND NOTES.

PLAGUE has appeared in one of the Ural districts of Russia.

YELLOW FEVER is gaining hold in Panama in spite of hard efforts to check it.

THE *Boston Herald* has recently announced that it will in future exclude from its columns all advertisements of patent medicine and venereal quacks.

UP to date Cincinnati has spent $5,113,296.83 on her new water-works plant, and it is estimated that two more years will be required for its completion.

DR. ALONZO H. SYLVESTER, a well known dentist of Berlin, one of whose patients and patrons was the German Emperor, committed suicide on January 10.

DR. ARTHUR R. CUSHNY, professor of materia medica and therapeutics in the University of Michigan, has resigned to accept a similar chair in the University of London, England.

ACCORDING to the weekly bulletin of the Chicago Health Department, influenza is more prevalent and more fatal in that city this winter than at any time since the epidemic there of 1891.

THERE are at present forty-three women pursuing the study of medicine and surgery in the University of Michigan. In the department of law of the same university there are only four female students.

THE number of students of medicine in all the German universities in the last summer semester was 6049, as against 6072 in the previous year. In the corresponding period of 1894 the number was 7796.

AN international convention, providing that the hospital ships in time of war shall be exempt from all dues and taxes imposed on vessels for the benefit of the state, has been signed at The Hague by most of the powers.

THE total number of medical students in Portugal is 584, distributed as follows in the three medical schools of that country: Lisbon Medico-Chirurgical School, 246; Oporto Medico-Chirurgical School, 209; University of Coimbra, 129.

THE dental profession of Germany has received a new recruit, who is notable for the reason that she belongs to the fair sex and is a member of the nobility. The Countess Helene von Schweinitz is said to have passed a very satisfactory examination.

DR. CHAS. A. L. REED, of Cincinnati, has been appointed by President Roosevelt as one of the two members from the United States to the joint commission which is to settle the dispute between the United States and the Republic of Panama over certain property rights.

THE Laryngological Society of London is organizing a celebration in honor of Senor Manuel Garcia, the inventor of the laryngoscope, who will complete his 100th year on March 17, 1905. The society proposes to present the famous maestro with a testimonial and an address on the occasion.

THE number of medical practitioners in the German Empire at the end of September, 1904, was 30,457. Of these, 18,480 were domiciled in Prussia, 3299 in Bavaria, 2304 in Saxony, 987 in Wurtemburg, 1177 in the Grand Duchy of Baden, 731 in the Grand Duchy of Hesse, and 871 in Alsace-Lorraine.

A MEETING of an international committee of anatomists was held at Geneva on December 20, 1904. Each member represented five of the leading anatomical societies of the world. It was decided to convoke the first meeting of a federated international congress of anatomy to be held at Geneva from August 7 to 10.

As so many hospitals, etc., are left without due medical attendance by the absence of their medical force at the seat of war, the Russian government has, says an exchange, ordered that the commencement exercises of the medical schools be held much earlier than usual, so that the graduates will be free this spring to serve where needed.

DR. WILLIAM H. WILEY, head of the United States Bureau of Chemistry, in addressing the Society of Chemical Industry, New York, says an exchange, declared that there were in the United States no fewer than 5000 fraudulent drug manufacturers who should be put out of business. During the past year, he said, fifty such firms had been put out of business for selling or for advertising "fake" medicines. His own name had been used without his permission by one firm in an indorsement of its goods. When he protested he was told to mind his own business. However, he forced the firm to refrain from using his name.

In a work on the Psycho-Physiology of Human Monstrosities, recently published, Drs. N. Vaschide and Cl. Vurpas have embodied the results of a close study of two monsters—one anencephalic, the other xiphopagous. In the former, which lived two days, the authors studied the workings of various parts of the vital machinery and made some researches in the sphere of psychology. They were led to conclude that the brain is not indispensable for a rudimentary psychobiological life; its function is mainly that of a coördinator of the respiratory movements, the vasoconstrictor system, and reflexes. The xiphopagous monster "united in itself two lives and displayed reciprocal biological reactions toward the same causes."

An association for the prevention of infant mortality has recently been formed in Russia. At the first meeting held on December 24, 1904, Professor Gundobin stated that of 2,100,000 children born each year in the European dominions of the Czar alone more than 1,200,000 died under the age of one year. The principal causes of this mortality were, according to him, the low state of civilization and the bad material condition of the peasants. The object of the new association is to establish crèches and hospitals in the country districts, to provide a supply of good milk for poor children, and to diffuse a knowledge of the principles of hygiene among the people. General v. d. Ropp, Imperial Councillor, was elected president, Dr. A. Russoff vice-president, and Dr. W. Dementjeff secretary of the association.

Among the members of the medical profession in foreign countries who have recently died are Dr. Lecorche, formerly physician to the Paris hospitals, professeur agrège in the Paris Medical Faculty, and author of monographs on gout, diabetes, and diseases of the kidneys, aged 75; Dr. Auclair, surgeon to the Roubaix Hospital, from the effects of a railway accident, aged 37; Prof. Fredrich Moriz Bauer, the distinguished entomologist of Vienna, aged 72; Dr. Guido Botlander, professor of physical chemistry in the Technical School of Brunswick, and for a long time assistant to Professor Binz in the Pharmacological Institute of Bonn, aged 49; Dr. Ernest Hallier, some time professor of botany in the University of Jena, well known for his researches on the bacteriological causation of infectious diseases made in the pre-Kochian era, aged 73; and Dr. Martin Brasch, a well known neurologist of Berlin, author of works on mental disease in relation to the law, etc., aged 39.

NEW PUBLICATIONS.

INTERNATIONAL CLINICS.

The new volume of International Clinics contains the usual assortment of well-selected articles on all subjects of medical activity. The fourteenth series is completed, and has been notable in many ways. It had 1234 pages, 89 articles, 294 illustrations, and three complete monographs, besides covering the whole field in medicine by contributions from 95 writers. International Clinics is a periodical which has justified its right to live by its intrinsic excellence.

International Clinics. A Quarterly of Illustrated Clinical Lectures by Leading Members of the Medical Profession Throughout the World. Edited by A. O. J. Kelly, A.M., M.D. Vol. IV, Fourteenth Series. J. B. Lippincott Company, Philadelphia.

ELECTRO-STATIC THERAPEUTICS AND THE ROENTGEN RAY.

The third edition of this manual is now issued. The progress of ray therapy makes the volume timely and useful to the host of workers in this field. It is in all respects a practical and handy manual for the operator in this field of therapeutics.

Electro-Static Modes of Application, Therapeutics and the Uses of the Roentgen Ray. By William Benham Snow, M.D., Professor of Electrotherapeutics and Radiotherapy in the New York School of Physical Therapeutics. Third Edition, Revised and Enlarged. Contains more than One Hundred Illustrations, including Ten Full-page Half-tones showing the various methods of posturing and treating conditions. Price, cloth bound, $3.00. A. L. Chatterton & Co., New York.

ESSENTIALS OF NERVOUS DISEASES AND INSANITY.

A fourth edition attests the popularity and the up-to-dateness of this one of Saunders's Question Compends. This edition (revised by Smith Ely Jelliffe) involves changes which keep pace with recent advances both in neurology and psychiatry. The illustrations show improvement over earlier editions, and newer pathological views are here embodied, so as to bring this edition quite up to date. The book serves an admirable purpose as a condensed handbook for the advanced student.

Essentials of Nervous Diseases and Insanity. By John C. Shaw, M.D. Fourth Edition, Thoroughly Revised by Smith Ely Jelliffe. W. B. Saunders & Co., 1904.

MEDICAL RECORD VISITING LIST.

This admirable visiting list again demands its share of professional patronage. It is needless to say it possesses the merits of former editions, and is in all respects a useful and handy pocket companion for the physician.

The Medical Record Visiting List or Physician's Diary for 1905. William Wood & Co., New York.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Ptosis of the Abdominal and Pelvic Organs.

R. C. Coffey (*American Medicine,* Jan. 28, 1905) says that the peritoneum is attached firmly not only to the diaphragm, but loosely by all its outer surface to the abdominal and pelvic walls, by means of loose connective tissue which allows it to move freely, but holds it always in contact. This connective tissue is much increased around the attachment of the supports of each organ. The irritation underneath and back of the peritoneum is followed, first, by an exudate which fixes it immovably to the abdominal wall. This exudate is soon displaced by an increase of normal connective tissue sufficient to meet the demands. The peritoneum itself is but slightly elastic, its seeming elasticity being due to the elasticity of the subperitoneal connective tissue. Two peritoneal surfaces brought together and held firmly in an aseptic state blend and become one membrane. If suppuration or other disturbance occurs, blending does not take place, but inflammatory adhesions are formed. The former is permament, while the latter is transitory, and will be absorbed generally. This differentiation is all-important. The uterus is suspended entirely by its peritoneum and connective tissue. The so-called true ligaments are not true ligaments, but muscles, and therefore perform the same function as all other muscular fibers in the animal organism, which is intermittent contraction, but never constant action. Their function is to sustain the normal poise or balance of the uterus during the changing positions of the body. Whatever may be the cause the condition existing is a stretching of either or both the peritoneum and connective tissue. The condition may be local or general, and may involve the support of one, more than one, or all the abdominal and pelvic organs.

The treatment in a general way will be the shortening of the peritoneum at the points at fault by some method of application and blending, or by bringing the peritoneum back to its normal contact with the abdominal wall. The method described for suspending the liver is almost ideal theoretically, and so far in the author's experience clinically and experimentally, in that it shortens the normal suspensory ligament, supplementing it by extending the ligament to one or both lobes by blending of peritoneum.

None of the operations for gastroptosis so far are theoretically or practically ideal for all cases. The hammock operation, stitching the omentum to the abdominal wall, is best suited to those cases due to adhesions holding the stomach out of place by its omentum, in which the condition accompanies operations on the lower abdomen or pelvis only. No discomfort has been observed by any of his patients. Posterior gastroenterostomy is the best operation for those cases due to dilatation or pyloric obstruction of any kind, and is all that is necessary, as it is held by its attachment high up and well back to the transverse mesocolon.

The Diagnosis of Perforated Duodenal Ulcer.

H. S. Clogg (*British Medical Journal,* Jan. 21, 1905) says that a perforated duodenal ulcer has only on rare occasions been diagnosed. Symptoms of perforative peritonitis occurring in a person in previous good health, particularly a male subject between thirty and fifty years of age, the early symptoms being marked in the upper region of the abdomen, should excite a suspicion of duodenal perforation.

Should these symptoms occur in a person who has previously complained of gastric disturbance, however vague it may be, the suspicion is greater. In the very acute perforating duodenal ulcers the differential diagnosis from gastric perforation will be impossible. Gastric ulcers generally perforate in young anemic women; duodenal ulcers in men between thirty and fifty. But this is by no means constant.

Symptoms of acute perforative peritonitis of epigastric origin and spreading down to the right iliac fossa, simulating an acute appendicitis, are frequently seen in duodenal perforation, but very infrequently in gastric perforation. In these cases it can generally be noticed that the early signs are referred to the upper abdomen; the iliac fossa is only secondarily involved. Rigidity at first is in the hypochondriac region, and only later in the iliac region. The initial shock is more intense generally in acute perforative appendicitis, and septic poisoning is seen earlier in the history of the case.

An acute appendicitis may travel from the iliac fossa to the right hypochondriac region, and thus simulate a duodenal perforation. The earliest signs here are in the right iliac region and only secondarily located in the hypochondrium. The similarity of duodenal perforation to acute appendicitis must be borne in mind, and by attention to the onset, the early site of pain, the area of

rigidity, and the initial higher fever in appendicitis, a correct diagnosis will generally be arrived at.

The occurrence or not of hematemesis or melena should be inquired into. A previous history of melena only suggests a duodenal perforation.

It is easier to exclude other causes of perforative peritonitis than a duodenal ulcer, and by exclusion a perforated duodenal ulcer ought to be more frequently diagnosed.

One Thousand Operations for Gall-stone Disease, with Special Reference to Mortality.

W. T. and C. H. Mayo (*Medical Herald,* January, 1905) report 1000 operations performed by them in which there were 50 deaths (5 per cent), counting as a death every patient operated upon who died in the hospital without regard to cause of death or length of time thereafter; 960 for benign disease, with 4.2 mortality. Where there was more than one procedure through a single incision, only the major was counted; therefore 101 cholecystostomies and 44 cholecystectomies in connection with common duct operations are not included. Cholecystectomies, 673 cases; mortality, 2.4. This group includes most of the acute infections. In no case did stones reform in the gall-bladder. This is the operation of choice in the average uncomplicated case, and especially if there is or has been cholangitis.

Cholecystectomy 186, mortality 4.3 per cent, employed for special indications, such as cystic duct obstruction, thick-walled gall-bladders suspicious of malignant disease, and cholecystitis without calculi. One hundred and thirty-seven operations for stone in common duct; mortality 11.7 per cent from operation, 4 per cent from secondary complications after more than three weeks. Cases operated on during quiescent period with little jaundice and slight infection all recovered. Four cases with extreme icterus from obstruction, which had subcutaneous hemorrhages at the time of operation (purpura), all died; four cases of complete biliary obstruction in which common and hepatic ducts filled with clear cystic fluid and no bile, all died. Including malignant disease, 14.6 of total were upon common duct. Forty cases of malignant disease with 22.5 per cent mortality, 2 cases with cancer of the gall-bladder, now alive and well more than two years after. Two additional favorable cases of more recent date. Of the remaining malignant cases a few received marked palliation, but the majority were little benefited.

Paraurethritis.

J. W. Churchman (*Journal of the American Medical Association,* Jan. 14, 1905) says that gonorrheal infection of paraurethral ducts occurs in the male, and that it may manifest itself either during the course of an ordinary urethritis or before urethral symptoms have appeared.

Paraurethritis may in its very early stages simulate inflammatory lesions of the surface of the glans, notably beginning chancre, chancroid, or herpes.

Paraurethral infection, once it has become established, can be destroyed only with great difficulty, the organisms reappearing in abundance even after cauterization of the duct.

The infection can be overcome without surgical intervention, and the continual existence of a neighboring focus of infection does not necessarily mean a bad urethral invasion if careful prophylactic measures are taken.

MEDICINE.

Is Pneumonia Increasing?

John S. Fulton (*Journal of the American Medical Association,* Jan. 14, 1905) says that the returned mortality of the United States for ages between fifteen and sixty during the past twenty years shows a diminishing mortality from the class of respiratory diseases commonly returned as pneumonia. Of the pneumonias occurring in this age period a large majority are true lobar pneumonia. Fifty-eight-and-a-half per cent of the population of the United States and 66.5 per cent of the population of cities are between the ages of fifteen and sixty. The incidence of lobar pneumonia on a major part of the population is therefore diminishing.

The returned mortality of the United States for ages above fifty indicates that the mortality from the class of respiratory diseases commonly returned as pneumonia has increased from 21.9 to 22.6 per cent in ten years, the population of the same age in the same period having increased from 6.2 to 6.6 per cent.

The urban mortality for the same age has grown in ten years from 16.1 to 19.5 and has been accompanied by an increase of population in that age period laterally from 5.23 to 5.27 per cent. Several pathologic conditions added to the group of pneumonias and not provided for in statistics are included in the returned

mortality of pneumonia for ages above sixty. For 6 per cent of our total population lobar pneumonia may have increased in the past ten years, though satisfactory evidence of an increase has not been offered.

The returned mortality of the United States for ages under 15 (about one-third of the total population) shows an apparent rise of mortality for the group of respiratory diseases commonly classed as pneumonia. The acute respiratory diseases of children were in former years commonly mistaken for affections of the nervous system. Year by year for thirty years increasing numbers of deaths formerly found in the indefinite accounts, and in the class of nervous diseases, have been transferred to the class of respiratory diseases, and especially to the pneumonia account.

Of the mortality recorded as due to pneumonia under the age of fifteen years, not more than 10 per cent is due to lobar pneumonia. A small though considerable incidence of lobar pneumonia in children under the age of five has come into view of late years, but there is no evidence that lobar pneumonia has increased in this age period. The remaining 90 per cent of the recorded mortality ascribed to pneumonia includes the conglomerate group of bronchopneumonias, nearly all of which are secondary or complicating causes of death, and should be referred in the mortality tables to the primary causes of death.

Since 1890 a new cause of infantile mortality has come into view, an acute respiratory infection attacking infants of two years old and under, commonly returned under the diagnosis of pneumonia, sometimes returned as due to a disease of the nervous system, and probably due to influenza.

The general mortality registration of American cities is in general very poor. The crude rates and ratios offered by certain cities as evidence of a rising pneumonia mortality are inconsistent with the mortality statements concerning other causes of death, and with the characteristics of the populations concerned. They represent a perversion of statistics which must eventually bring discredit on American mortality registration.

The Reflexes in Hysteria.

D. Broca (*British Medical Journal*, Dec. 24, 1904) from a study of 100 cases of hysteria chosen from among the more typical draws the following conclusions: (1) Abolition of the pharyngeal reflex is frequent, especially in the forms accompanied by anesthesia, less often in hysterical fits, still less in paralyses and

contractures. This sign is found in many other affections, and even normally, and is therefore of little diagnostic value in hysteria. (2) Exaggeration of the tendon reflexes is more frequent than abolition of the pharyngeal reflex, and is a sign at least as important as the latter. It is very frequent in hysterical seizures, less constant in paralyses and contractures, still less in anesthetic cases. It is, however, found in many toxic conditions, and even normally, and so has no pathognomonic value. (3) Abolition of plantar sensibility is frequent in hysteria, especially in the forms with anesthesia, then in paralyses, and lastly in convulsions. (4) Simultaneous abolition of cortical plantar reflex or flexor type, and of medullary or fascia lata type, is very frequent, most in anesthetic cases, a little less often in paralyses, contractures, and convulsions. This sign the author terms the *phenomene plantaire* combine. These two reflexes are remarkably constant in the normal state; their abolition has considerable importance in the diagnosis of hysteria, of which it may be regarded as a special sign. (5) Plantar anesthesia is not necessarily present with the combined plantar phenomenon; it may coexist, but the latter may be present without alteration of sensation. (6) The deep plantar reflex is often exaggerated in hysteria, but it may be normal, feeble, or abolished. (7) The abdominal reflex shows inconstant variations; most often it is normal, but may be abolished, exaggerated, or feeble. (8) Ankle clonus is not very rare, patellar clonus is less frequent, and wrist clonus the author has not seen in these cases. Ankle clonus is especially frequent in the paralytic forms, less common in the others. Patellar clonus is also most frequent in the paralyses and contractures, very rare in convulsions, and never seen in anesthesias. (9) The author has never seen true Babinski's reflex in typical cases, but in eight cases there was *le signe de l'eventail;* the latter sign, therefore, has not the same clinical importance as the extensor reflex.

Tuberculosis and Mortality in Childhood.

William P. Branson (*British Medical Journal,* Jan. 14, 1905) says that among the children of the poor tuberculosis is absolutely most fatal during the first two years of life, but relatively to all other causes of death becomes progressively more fatal until the fourth year.

There is no specific relationship between measles and whooping-cough on the one hand and tuberculosis on the other.

Catarrhal lesions of mucous membranes are the paramount predisposing causes of tuberculosis in early life, and measles and whooping-cough are potent in this regard only through the catarrhs accompanying them.

About fifty per cent of children dying of tuberculosis in childhood had neither measles nor whooping-cough.

While the infection of tuberculosis in childhood is mostly airborne, primary infection of the abdomen is by no means a rarity.

The Healing of Tuberculosis.

Herbert M. King (*Medical Record,* Jan. 7, 1905) says it is probable that the initial lesion following a tuberculous infection is often obscure in its clinical manifestations and frequently escapes identification.

There is nearly always a prompt and very often successful tendency on the part of the organism to a more or less complete repair, followed by an interval of apparent health.

Following this interval, which may extend into a period of years, there is a strong tendency to relapse.

What is in reality a recrudescence of an arrested lesion is very frequently mistaken for an initial onset.

Whatever may be the facts in an individual case, the safest and most practical policy lies in regarding every apparent recovery from tuberculosis as merely an arrest of the disease, brought about by an acquired immunity, which suitable conditions are very prone to destroy.

The Pathology and Treatment of Diabetic Gangrene of the Lower Extremity.

H. J. Whitacre (*New York Medical Journal,* Jan. 28, 1905) says that an endarteritis obliterans is the main etiological factor in so-called diabetic gangrene.

In the absence of such arterial change it is believed that gangrene of the lower extremity will not often occur in diabetes.

The form of diabetes presented in this type of case varies considerably from true diabetes mellitus.

An expectant line of treatment should be followed as long as the gangrene is confined to the toes.

Amputation above the knee should be done as soon as the gangrene process involves the dorsum of the foot.

The Infantile Scorbutus in Berlin.

Neumann (*Archiv f. Hygiene,* Bd. 1, H. 2) finds that this condition is brought about by feeding milk heated to 70° C. for thirty minutes. Children are decidedly predisposed to this disease. The author since 1897 has observed fifty-nine cases, and many of these procured the milk from the same dairy. He suggests that the public be informed as to whether the milk has been Pasteurized or not, as by aid of this knowledge they may control the feeding of it.

THERAPEUTICS.

The Rational Treatment of Chronic Constipation.

At the recent meeting of the New York County Medical Society, D. H. Murray (*Medical Record,* Jan. 28, 1905) read this paper and referred to the pathological changes that occur in the rectum, particularly the anal canal, and also to proctitis, sigmoiditis, and colitis. As a rule the pathological changes that are associated with chronic constipation are to be found below the entrance to the sigmoid. His plan of treatment of chronic constipation has not been used by others, and he said it gave him much pleasure to be able to present it to the profession. In taking the patient's history the most careful routine should be followed, and certain symptoms should be elicited that would aid in classifying the cases. A thorough examination is necessary; if patients decline to allow such an examination they should be refused treatment. The treatment is given every fourth day, until the patient has daily normal stools; after that time the length between treatments should be increased until the patient can get along on his own resources. The treatment occupies about one hour. The patient is placed in the Sims position, and an electrode with a perforated soft-rubber shield is passed into the sigmoid. This is connected with the positive pole of a battery and also with an irrigator containing decinormal salt solution held three and a half feet above the patient; the flow is readily controlled by a stop-cock. Before treatment is begun the mucosa should be thoroughly cleansed.

The effect of the treatment seems to be soothing and quieting to the mucous membrane. As a result of treatment the patients have a better power of expulsion than was possible before the treatment was begun. The temperature of the fluid used should

be 100° F., and from five to twenty milliamperes should be used. When the first part of the treatment is finished, the skin will be found to be reddened. No electricity reaches the part except through the saline solution. The electricity is applied about ten to fifteen minutes, and from thirty-two to thirty-six ounces of fluid flows through into the sigmoid. Then the patient is instructed to go to the toilet. Later he returns to the table for the second part of the treament, when a special tube is utilized to insert into the colon bismuth subnitrate, iodoform, and oil. This is followed by the use of a solution of ichthyol or hydrastis. The patients are kept on the table with the hips elevated for ten minutes. When the treatment is begun they are instructed to discontinue the use of all laxatives, to go to the toilet at certain hours every day, and never to strain. If the bowels at first fail to move, then an enema of plain water and oil is given. The patients are allowed a liberal diet, and are told to drink six glasses of water daily. The results of this treatment are that daily and normal movements are produced. Nearly 75 per cent of his cases were cured, while almost all of the remaining 25 per cent were improved. Four and a half years was the longest time required in the treatment.

Dr. Murray closed his paper by stating that the three greatest causes of constipation are ignorance, carelessness, and laziness, and he believed that a great many people to-day in the insane hospitals were brought there by the results of chronic constipation.

Chloride of Sodium and Dropsy.

The effects of removing chloride of sodium from the diet, to the importance of which in pathological conditions associated with anasarca, etc., attention has been called by Widal and others, have lately been tested by several Italian clinicians. Massalonga and Zambelli (*Lancet,* Jan. 14, 1905) in a communication read before the recent Congress of Internal Medicine confirm what these authors state, namely, that the retention of chloride of sodium has a preponderating share in the genesis of edema, although it does not always stand in any definite relation to the edema itself. The most important of the effects produced by it is upon nephritic subjects, in whom a few grammes of salt suffice to provoke or to augment edema, whilst the removal of it from the diet causes the edema to diminish or to disappear altogether. A suitable diet poor in chloride of sodium was enough in almost

every case to better the general condition of the patient, to reduce albuminuria, and to stimulate diuresis. But also in dropsy of cardiac origin a salt-free diet is very often of itself sufficient to diminish the edema, reëstablishing the function of the heart and facilitating the action of cardiac tonics where these had not previously proved effectual. Considerable improvement in the grave state of a patient may thus be brought about. In like manner the ascites of hepatic cirrhosis may be reduced with or without diuretics by the same means, and even in tuberculous effusions into the peritoneal cavity and serofibrinous exudations of the pleura it sometimes, though less frequently, proves of signal service, especially where no fever is present.

Cioffi has obtained similar results, but enjoins care in prolonging beyond a certain point the salt-free diet, as it is liable to cause grave changes in the kidneys. Experimenting on healthy guinea-pigs, he found that after only twenty-four hours of salt-free diet there appeared in the urine albumin and tube casts in great numbers, and that these immediately disappeared when ordinary diet was resumed. On the other hand, by injecting into the veins a small amount of salt solution he was also able to produce a similar result, thus proving that an excess of salt has the same injurious effect as the withdrawal of it, the convoluted tubules in both cases showing almost identical alterations.

The Influence of Suprarenal Extract upon Absorption and Transudation.

S. T. Meltzer and T. Aner (*American Journal of the Medical Sciences,* January, 1905) give the following conclusions: (1) Intravenous injections of suprarenal extract invariably retard the processes of absorption and transudation. (2) Subcutaneous injections also often show a retardation of these processes; the effect, however, is neither strong nor constant. (3) In frogs the retardation of absorption of some substances was recognizable only when suprarenal extract was previously mixed with that substance, or when both substances were injected into one and the same lymph sac. (4) It is assumed that the suprarenal extract increases the tonicity of the protoplasm surrounding the pores of the endothelia of the capillaries, thereby reducing the facility for the interchange between the blood and the tissue fluid.

THE MEDICAL AGE

VOL. XXIII. DETROIT, MARCH 10, 1905. No. 5.

ORIGINAL CONTRIBUTIONS.

A SYMPOSIUM ON SYPHILIS.

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IV. THE PROGNOSIS OF SYPHILIS.

There is much uncertainty prevailing concerning the prognosis of syphilis. Much difference of opinion is encountered about this subject, and there are no two authorities who concur in the same view. Some slight discrepancy is nearly always to be found, though, broadly speaking, the essential features of their ideas remain comparatively identical. We shall endeavor to discuss the prognostic aspect of syphilis, if possible, in a logical and scientific manner, based partly upon the results of personal clinical observation and partly (and which is of greater importance) upon the expressions of opinion of a number of syphilographers of this country and abroad, whose views must be regarded as trustworthy and reliable, if not decisive. These informations have been gathered by *directly* consulting the authorities enumerated in the subsequent pages.

The authors desire to express their indebtedness to Dr. Samuel E. Earp, editor of the *Central States Medical Journal*, for the points suggested in the consideration of the prognosis of syphilis, which led the authors to study the question in a systematic manner, both from personal clinical experience as well as from authoritative sources, the results of which they have endeavored to embody in the subjoined elaboration of the subject.

The suggestions, in the form of queries, which were offered to the authors by Dr. Earp are as follows: (1) Is syphilis curable? (2) How long should a patient be under treatment? (3) What are the indications of a cure? (4) Are the indications positive and reliable?

Circular letters containing these interrogatories were addressed to known syphilographers of the United States and Europe. The answers thereto, owing to the vast clinical experience and keen observations of these authorities, must be accepted as conclusive. They may differ in the minutiæ of the basal conception underlying the subject, but the essential and chief points run with a tolerable precision and accuracy, indicative of similar results derived therapeutically as well as prognostically, as it will be noted by perusing the succeeding paragraphs.

The following replies are appended in order of their priority, and not from a view-point of superiority or preference:

Dr. Duncan Bulkley answers these questions as follows:

1. Is syphilis curable? Yes, with proper treatment, sufficiently prolonged.

2. How long should a patient be under treatment? At least two years; often three or four years are necessary.

3. What are the indications of a cure? Absence of all symptoms one year after full and efficient treatment.

4. Are the indications positive and reliable? Nothing in medicine can be absolutely positive, but the chances of trouble are very remote, under proper care as indicated above.

Dr. Frank G. Lydston answers the first question in the affirmative. To the query, "How long should a patient be under treatment?" he says: "At least three years on the average." As to the third query he remarks: "There is no positive test. Experience shows that the majority of cases that have been well treated for three years, and who escaped symptoms for at least eighteen months, are cured. Where patients contemplate matrimony, they should add another year's treatment after apparent cure." The fourth question remains unanswered.

Dr. Fred C. Valentine, of New York City, treats the first question from a hereditary standpoint, thus adding more weight to it and augmenting its value. He says: "From one case observed through three generations, and from a large number through two generations, I think it is curable." As to the length of time necessary to effect a cure he concurs with the previous author, viz., three years. As to the third interrogatory he remarks: "That not alone absence of all manifestations is

indicative of a cure, but also the propagation of healthy children." To the question, "Are the indications positive and reliable?" he answers: "I think so."

Prof. H. Breaky, of the University of Michigan, in answer to the first question says: "Yes, when appropriate treatment (which in the primary stage should be largely expectant) is begun early and intelligently continued, and varied to meet conditions." As to the length of time required to obtain a cure he states: "It depends on the stage and condition when treatment is begun, varying from two to four years, with conditional intervals for observation, and extension of time of treatment if recurrence of symptoms." Regarding the indications of a cure he remarks: "Absence of lesions of all kinds, and of all resulting symptoms and phenomena. Of course, scars and ulcers may remain after a patient is practically 'cured.'" As to whether the indications are reliable and positive he makes the following statement: "Generally, as a rule, though complications of intercurrent disease may obscure the situation. And syphilis of brain and cord, whether interstitial or from gummata, renders indications less clear. But while syphilis lessens resistance to all other diseases, it is an error to attribute to results of it all illness that may follow an infection of syphilis." The authors have spoken in the same sense on a previous occasion in discussing the incidental or complementary dermatoses of syphilis.

Dr. Oscar Lassar, professor of dermatology, University of Berlin, in answer to the aforementioned questions says: "Syphilis is curable. A patient should be under treatment as long as he shows symptoms, and at each attack some weeks more. Besides, later on two or three courses, for the sake of precaution. The indications of a cure are no new appearances of manifestations, and these indications are generally as a rule positive and reliable."

From experience gained both in private and dispensary practice, the authors believe that the syphilitic manifestations may be brought to an absolute standstill by thoroughly bringing the system under the influence of mercury as early in the process as possible—that is to say, as soon as a positive diagnosis has been arrived at. Procrastination is to be deplored, and the phyician should beware of dallying with such a destructive affection as syphilis. The sooner treatment is begun, the more readily is the toxemia (and lues is nothing else but a toxemia) neutralized and eventually combated, and tertiary or late phenomena prevented from making their appearance. Mercury should be our

sole therapeutic agent to be employed in the early and late secondary stage, while iodine and its salts should constitute our main remedy during the tardive or tertiary manifestations.

Syphilis is, in the opinion of the authors, one of the most amenable disorders extant, and if specific medication is administered for two years (with short intermissons) and iodic therapeusis for another year, the malady is finally made to depart without any ill consequences or untoward intercurrent effects springing from its own source. The only indications are absence of all symptoms and no appearance of new outbreaks thereafter. A course of specific medication for about two or three months several years after the disappearance of the morbid process is a very commendable precautionary measure and should be advocated by the practitioner most emphatically, and insisted upon. The above indications, however, are unfortunately not positive, as there is nothing prognostically positive in a human organism, once the nidus of a toxemic condition is coupled with gross pathologic processes in the tissues in the form of an increased proliferation of connective tissue, which is the characterstic morbid feature of the malady under consideration. Still, to judge from an extended clinical experience, it would seem that if three years have elapsed after the disappearance of the entire syndrome of this disorder, we are justified then in regarding the disease under complete subjugation and efficiently controlled. There should also be in addition a steady gain of weight, or at least no appreciable loss of same.

In conclusion we desire to say that in view of the above exposé of this subject, it readily lends itself to positive deductions, and in accordance therewith we venture to formulate them as follows:

1. Syphilis is a curable affection, provided treatment is begun early and faithfully and persistently carried out.

2. At least three, if not four, years of continuous treatment are required to bring the morbid process under control, with all dangers of recrudescence eliminated.

3. The indications of a total cessation of the destructive condition consist in the absence of all manifestations and lesions for a period of not less than two years, a steady gain of bodily weight, or at least no loss of same, and the propagation of healthy children.

4. These indications are, at the present juncture of our knowledge of the prognosis of syphilis, unfortunately far from positive and reliable.

V. TREATMENT.

Energetic and continuous treatment should be employed throughout the contagious stage of the disease and interrupted treatment during life, in order to procure immunity against the formation of lesions and prevent injury to the tissues in any part of the body.

We have been governed too much by tradition in syphilis, as well as in many other things in medicine. We have been trying to recognize primary, secondary, and tertiary stages, and if the secondary stage were not present we would doubt that the case was syphilis. We have been expecting to have certain distinct lesions and sequence of lesions. The sequence takes place in the great majority of cases, but there are many cases in which the sequence has been irregular.

The aim of treatment should be to avoid or minimize dangerous structural changes in important organs, to give a benign character to the disease, and to leave the system in about as normal a condition as it is after complete recovery from such acute diseases as variola or scarlet fever. The system should be left in much the same condition as it is in a mother, who has received immunity without receiving the specific organism or toxin from the fetus; not being able to acquire syphilis, there is no manifestation of secondary or tertiary lesions.

Syphilis should be looked upon more as an acute infectious disease, with anatomical lesions, either visible or invisible, and general intoxication from toxins, which are capable of bringing about immunity directly or indirectly. It is of limited duration, but yet a serious disease. In some acute infectious diseases, as variola and typhoid fever, death results usually from intoxication by toxins. In others more chronic that do not give immunity, as tuberculosis and leprosy, death often results from injury to important organs in consequence of some inflammatory change.

The pains in the muscles and joints, the general weakness and concurrent symptoms in syphilis, would seem to be due to intoxication from the toxins and not from the organism direct. Great stress should be laid upon this intoxication by toxins, notwithstanding the fact that a number of authorities oppose this view. Syphilis is a serious disease because of the deformities, which may cause fatal conditions, such as myelitis, meningitis, etc. Often when there are no lesions to be observed by the naked eye, the microscope shows changes in the tissues. The smallest amount of intoxication necessary for immunity may leave an impress on the tissues sufficient to show that the dyscrasia exists;

the less intoxication, the less injury to the tissues. This is important to remember because often lesions occur, owing to tissue vulnerability, ten or twelve years after all the syphilitic poison has left the system, such as patches on the tongue, palmar syphilides, etc.

Text-books have divided the disease into stages, but it should be looked upon as a continuous process. The length and severity of the attack are not dependent on the length of the incubation period, nor on the character of the primary sore, except in a general way. The so-called secondary stage is ushered in by certain cutaneous manifestations; fever is present; the lymph glands, the spleen, and liver are enlarged; the nervous system is usually affected, neuralgia being marked. The malignancy of the disease depends upon the soil, not on the amount of inoculation, and dangerous conditions may exist without any severe external lesions being visible.

An important point in treatment consists in preventing, if possible, the untoward results of lesions by pushing the remedies. Although no outward signs are visible, the toxins are sure to leave their impress on the tissues, and the absence of cutaneous lesions is no proof that lesions are not present in the internal organs and damaging them. The lesions of the skin are of minor importance as compared to those of the internal organs. Existing lesions should be treated to lessen the danger of contagion, to remove deformity, to save tissue, and to diminish the normal duration of the contagious stage. It is much better to prevent lesion formation than to wait until the lesions have formed, and then commence treatment for their removal. During the contagious period, contagion may occur from the lesions, the blood, and probably from physiological secretions. To lessen the contagiousness is important.

Treatment should be directed toward diminishing the amount of virus produced, and to aid in its elimination or to render it innocuous as long as the organisms are present. Besides, the lesions should be removed. The life activity of the organisms may be greatly lessened, if not removed. As far as is known at present, only two drugs have any special action on this disease—*i.e.*, mercury and the iodides. Mercury is directly antagonistic to the organisms. A solution of bichloride, of one-thousandth per cent strength, added to a drop of pus from a chancre destroys the organisms. Potassium iodide will not do this, but it has the effect of aiding cell metabolism, and in some way or other assists in the elimination of the virus. The mercury should be pushed

until the gums are touched. If it is not pushed to this extent, there is no proof that enough has been given to produce its physiological effect. It is necessary to keep the mouth in good condition; smoking should be prohibited and the teeth kept clean. The mercury has perhaps the best effect, and is least harmful, when given by inunction. If prompt action be required, this is the best mode of administration. Contraindications to this method are where there is too much adipose tissue and in persons with tender skins.

During treatment an important point is to prevent irritation of any part of the body or the overdetermination of blood to any particular part. This tends to prevent the formation of lesions. Hence a student should not read too much; and care should be taken, by those whose work exposes them, to avoid injury.

Regarding the initial sore, its character is not a positive guide as to the prognosis. A large lesion is no doubt a hotbed of infection. A better guide to go by is the character of the soil. However, a patient in an excellent physical condition, with a pea-sized chancre, with little signs of breaking down, may get very soon in a bad condition, if such precautions as the avoidance of alcoholic beverages and the like be not enforced.

Can syphilis be aborted by treatment of the primary sore? It takes about twenty days after infection for the primary sore to form, so as to be recognized. It takes about ten days for the inguinal glands to enlarge; hence ten days before the sore is recognized there is infection of the glands, so it is evident that it would be useless to excise the primary sore. This does not counteract the view held, that if there be a hotbed of infection, and one can diminish the size of the sore and make certain applications to inhibit the action and life of the organisms, the amount of intoxication from this hotbed will be lessened; but it is useless to excise the primary sore for the purpose of aborting the disease. This proves that it is a continuous process, hence treatment should commence at once. The appearance of the secondary eruptions should not be awaited; enlargement of the inguinal glands is sufficient.

Some persons suffer more than others in the so-called secondary stage. The soil accounts for it. Persons with a lowered condition of vitality suffer more than the robust, hence the latter condition should be maintained if possible. Good hygiene, food of the proper quality and quantity, and the avoidance of excesses should be enjoined. A good action of the excretory organs favors the elimination of the toxins.

Mercury has an inhibitory action on the life of the microbes, perhaps killing many of them, as shown by the experiment mentioned. Judging from clinical experience, it is not possible to kill all of the organisms in the body, as they are scattered throughout the whole system.

Their action may be inhibited, their toxins lessened, and it is possible to postpone or entirely prevent the formation of lesions. If the secondary lesions are entirely prevented during the so-called secondary stage, treatment after that is unnecessary. It is not correct to put the patient under active treatment for thirty days and then allow him to go untreated until symptoms reappear, as a reappearance of the signs means serious injury. In this sort of treatment one is simply repelling attacks, not carrying on offensive warfare against the organisms. Such treatment will materially increase the danger of tertiary lesions. Antisyphilitic treatment after the contagious stage aims at the prevention of gummatous formation. For this mercury combined with the iodides is the treatment.

Gummata should not be regarded as syphilitic lesions; syphilis is just a predisposing factor. Energetic and continued treatment is called for in treating these tertiary lesions. Mercury may be given for a certain length of time, but will lose its action, and it is wise to change to the iodides. The iodides aid the mercury in its action, and one must be careful in giving the iodides at this juncture for fear of loosening up too much mercury in the system.

Irritation lesions often occur late, and may be seen on the lips and tongues of those who use alcohol. Such are the result of the dyscrasia, not of the syphilitic poison, and they are not cured by antisyphilitic treatment. Such remedies as the iodides, which aid in restoring a proper action of the glands, will aid in the removal of such lesions. Locomotor ataxia and similar lesions come under this category.

The value of Hot Springs lies in keeping the system in a good condition. The system undergoes good cell metabolism, as ten minutes after taking a hot bath the patient's temperature usually runs up to 100° or 102° F., showing rapid cell metabolism. Persons who have never taken syphilitic treatment go there, take no treatment except the baths, and the lesions disappear entirely, showing they were irritation lesions from within and that they had nothing to do with the syphilis. The danger in the late stages is more from the lesion formation than from the intoxication.

A condition of the system should be brought about similar to

that present in the mother who has obtained immunity through the fetus. The toxins give immunity, and the person throughout life should have no syphilitic lesions of any kind; he is immune. So the object in treatment is to get this immunity which could be insured without lesion formation, so that the tissues, as in the case of the mother with the syphilitic fetus, may escape injury. Treated on these principles there are no reasons why syphilis should be a dangerous disease to persons affected; danger to others is almost entirely removed.

The disease itself is not only made less severe, but the lesions less frequent.

It may not be amiss to state prior to the elaboration of the subject proper on the treatment of syphilis, that it must not be instituted until a positive diagnosis has been arrived at, lest the symptoms be masked and the appearance of determinable lesions thus prevented, hence incurring the risk of a curtailed and inefficient form of treatment and endangering the life of the individual, a thing least of all desirable in this particular affection. The passive or expectant plan must be had recourse to before the advent of more definite and exact manifestations. There are no certain rules or accurate signs indicative of the most opportune or adequate period at which treatment should be begun. Still, when a general adenopathy has come into existence, it is proper time to resort to specific medication; local adenopathy, however, and especially inguinal adenopathy *per se,* precludes it. It is absolutely unnecessary to wait for the approach of involvement of the mucous and cutaneous surfaces; as intimated above, the condition of the lymphatic system throughout should serve as a guide for the prompt institution of treatment.

The authors wish also to insist in this connection upon a sufficiently prolonged course of medication. Much difference of opinion is extant among syphilographers as to the length of time required for the eradication of the syphilitic virus and the establishment of an apparent status of quiescence or permanent non-recrudescence; upon this one point they are at variance. Notwithstanding this, by summing up the different expressions of opinion pertaining to this vital question, the inference may be drawn that not less than two years of efficient and continuous treatment should be enjoined, the third year being devoted to the intermittent plan of therapeusis, or as some authors term it, "intermittent treatment."

As soon as the existence of lues is established beyond doubt, no procrastination should be suffered, but specific medication im-

mediately inaugurated. The initial scleroma—unless there be a concomitant mixed infection—need not give the least apprehension and necessitates but little attention, except strict cleanliness and the application of innocuous antiseptic dusting powders, as bismuth subnitrate, boric acid, or aristol, severally or in combination. A favorite formula with the authors is the following:

℞ Acidi borici .....3iij (Gm. 12.0).
Bismuthi subnitr .....3iij (Gm. 12.0).
Aristolis .....3ij (Gm. 8.0).

M. et ft. pulv. Sig.: Apply twice a day after deterging the ulcer with hot water to which a small quantity of boric acid has been added.

Cauterization is absolutely contraindicated, and should only be resorted to when the initial lesion is complicated by chancroidal infection and threatens to assume a serpiginous or phagedenic aspect; cauterization will neither avert nor attenuate the already existing syphilitic toxin. In conjunction with the above, the organism should be brought under the influence of mercury without delay and dalliance, and persistently and rigorously adhered to for the subsequent eighteen or twenty months with short periods of intermission and repose.

The authors desire to acquaint the reader with a method of procedure which for lack of an adequate terminology they have designated the "cycle method" (and for which they implore indulgence and forgiveness). This method has been extensively used in dispensary as well as private practice, and been attended by the most favorable results; seldom, if ever, have any recurrences of the malady been observed. The treatment consists, broadly speaking, of the systematic administration of mercury in *variable, changeable, and alternate forms,* with slight intermissions, wherein tonics and eliminatives are exhibited. This method possesses the following advantages over the old, ultra-empirical, and rude form of routine:

1. It never salivates the individual.
2. No untoward after-effects are discernible.
3. Gastrointestinal disturbances are obviated.
4. Consecutive mercurial dermatoses are not apt to appear.
5. Its greater efficacy, promptness, and permanency.
6. It is more systematic and thorough.
7. The danger of recrudescence is minimized.
8. The tardive or tertiary phenomena are held in abeyance.

Articles by the authors on this particular method of syphilitic therapy have appeared in and been abstracted and reviewed by a number of domestic and Canadian medical journals. We shall

endeavor to outline in the following paragraphs the essential features of this method of treatment.

SPECIFIC TREATMENT.

1. *Metallic mercury* should be given the preference in the commencement of treatment, mercury and chalk being a very ideal form of the same. It may be administered in doses of from 2 to 5 grains *ter in die* in conjunction with nux vomica and hyoscyamus (to prevent griping) and some of the easily assimilable ferruginous preparations (if anemia coexists) as follows:

℞ Hydrarg. cum cretæ .....gr. xxiv (Gm. 1.54).
Extr. nuc. vom. .....gr. iij (Gm. 0.18).
Extr. hyoscyami .....gr. iv (Gm. 0.24).
Ferri lactatis .....gr. xv (Gm. 1.0).
M. et ft. caps. No. xii. Sig.: One ter in die, two hours after meals.

This should be continued for seven days, after which a bitter tonic in combination with belladonna and arsenic in a vehicle of wine of kola is to be exhibited for about three days.

The author makes use of the subjoined prescription:

℞ Tr. nuc. vom. .....dr. j (Cc. 4.0).
Tr. quassiæ .....dr. iij (Cc. 12.0).
Tr. belladonnæ,
Liq. pot. arsenitis.....ää dr. j.
Vini kolæ .....q. s. ad oz. iv.
Sig.: One dessertspoonful before meals with water.

The three days of intermission are termed the short period of repose, in contradistinction to the long period of intermission to be delineated in detail subsequently.

2. The *protoiodide of mercury* is the form next to be employed. It can be given in doses of from gr. ⅛ to ¼ t. i. d., either alone or together with the tartrate of iron and ammonium. The length of time of administration is one week, to be followed by the same tonic as mentioned in the preceding section for three days, which constitutes another period of repose.

3. Inunctions. *Unguent. hydrarg.* (U. S. P.), or what is better, mercury vasogen (which is supposed to be metallic mercury with an oxidized hydrocarbon as a base), may be employed. Before applying the same, however, the portion of the skin to be anointed is washed with a saline solution, followed by a brisk rub with alcohol, after which the mercurial ointment is thoroughly applied with friction; the most appropriate time for its application is at the hour of retiring, and it must be continued for twelve consecutive evenings. Twelve regions of the body are anointed, as follows: (1) Right arm and corresponding axillary space;

(2) left arm and corresponding axillary space; (3) anterior thoracic region; (4) abdomen; (5) right thigh and inguinal space; (6) left thigh and inguinal region; (7) right leg; (8) left leg; (9) both hands; (10) both feet; (11) lumbar and sacral regions; (12) dorsal and cervical areas. Two grammes of the ointment is used for each inunction, which—as already intimated elsewhere—must be thoroughly incorporated in the skin. This completes one inunction course. A warm alkaline bath is taken immediately upon the completion of the course, and a three days' tonic repose granted.

4. *Mercuric iodide,* gr. 1/12 to ⅛ t. i. d., is then exhibited in the same manner as the protoiodide, with a similar period of remission, wherein tonics are used.

5. The next form is the so-called "mixed treatment," which comprises the simultaneous use of mercury and iodine, the former as the bichloride or biniodide, and the latter in the form of the sodium or potassium salt. The sodium salt, in the authors' opinion, is more efficacious than the potassium. The appended formulæ were found to be very advantageous:

℞ Hydrarg. biniodid. .....gr. ij (Gm. 0.12).
Sod. iodid. .....dr. 3½ (Gm. 14.0).

M. et ft. caps. No. xxi. Sig.: One two hours after meals. Or,

℞ Hydrarg. biniodid. .....gr. j (Gm. 0.06).
Pot. iodid. .....dr. ij (Gm. 8.0).
Tr. gentianæ comp. .....dr. iij (Cc. 12.0).
Syr. trifolii comp. .....q. s. ad oz. ij.

M. et ft. sol. Sig.: One teaspoonful with water two hours after meals.

In cases of coincident anemia the following combination acts very beneficially:

℞ Ac. arseniosi. .....gr. 1-5 (Gm. 0.012).
Sod. iodid. .....dr. 1 1-2 (Gm. 6.0).
Hydrag. biniodid .....gr. 1-2 (Gm. 0.03).
Ferri lactatis .....gr. 24 (Gm. 1.54).
Quininæ sulph .....gr. 6 (Gm. 0.36).

M. et ft. caps. No. 12. Sig.: One capsule two hours after meals.

The mixed treatment must be persisted in for a similar length of time as advocated for the aforementioned forms. Another short period of repose is then permitted, during which the tonic medication already suggested is given.

Throughout the entire cyclical period of specific therapeusis the patient must be warned against indiscretions in diet and general hygiene. The use of mineral acids must be interdicted, while vegetable acids in moderate quantities may be allowed,

especially the fruit acids; hence the patient may partake of fruits, as apples, oranges, peaches, and prunes. Pork and pastry must be tabooed from the dietary. Overexertion, both physical and mental, is to be prohibited. The mouth and teeth are to be kept scrupulously clean, and all tartar removed from the alveolar margins and surfaces of the teeth. Alcoholic beverages are forbidden, still a light claret at the table may under circumstances be allowed; stout and ale may be partaken of in moderate amount, as well as malt extract. Of course, it is needless to say that all these beverages, if permitted at all, must be used very tentatively. Coffee and tea must be absolutely discarded, and smoking and chewing abstained from, lest mucous plaques ensue, manifesting much obstinacy toward treatment. In the eliminative treatment, as will be noted subsequently, the diet may be more liberal and additional concessions made. Balneotherapy, either simple or medicated, should supplement the method of treatment promulgated in the foregoing pages, and should be assiduously encouraged, as frequent ablutions remove much effete matter from the organism and lend the body greater resistive power toward the onslaught of intercurrent affections.

ELIMINATIVE TREATMENT.

6. The patient is next put on sod. or potass. iodid. in ascending doses for one week, beginning with one minim of a saturated solution *ter in die* and increasing by one minim each subsequent day; it should be taken considerably diluted with water. The best time for its administration is two or three hours after meals. If the iodides are not well borne, the syrup of hydriodic acid may be substituted in lieu of it, or the potass. iodid. may be given in solution per rectum, to which a few drops of tincture of opium may be added to allay rectal tenesmus; this may be injected three times daily. The iodides may also be prescribed in conjunction with the vegetable alteratives, as stillingia, trifolium, taraxacum, lappa, sassafras, sarsaparilla, etc. The iodine treatment should be kept up for one week, after which a repose of three days is again allowed, during which tonics are administered.

7. After this, *simple or alkaline baths* daily for one week are advised; the various sulphur spas are of decided value at this particular stage of medication.

All treatment is then suspended, and the patient permitted to enjoy a longer interval of rest, or a medium period of repose, for about two weeks, after the expiration of which the above method is resumed.

This constitutes the treatment of acquired lues for the first eighteen months of its existence. Another method will be delineated in connection with the management of the succeeding terminal eighteen months, wherein iodine or its preparations are the dominant therapeutic agents.

Thus it will be seen from the foregoing that a cycle comprises about three months, and that within the first eighteen months six cycles are contained; these cycles are termed *primary, specific, or mercury cycles,* in contradistinction to the succeeding six cycles for the terminal eighteen months, which are denominated *eliminative, intermittent, or iodine cycles,* by virtue of the preponderance of iodine at this particular period of treatment.

The following section will be devoted to an elucidation of the second or iodine cycle:

After the lapse of eighteen months, under the above systematic specific medication, a month's repose is granted, at the expiration of which time the treatment given below is adopted:

1. *Iodine,* in the form of the sod. or pot. salt, is exhibited in ascending doses for one month; the saturated solution of either salt serves admirably well at this juncture. It may also be given in conjunction with the vegetable alteratives enumerated elsewhere.

It is begun by giving one minim of the saturated solution *ter in die,* well diluted with water, to be increased each subsequent day by one minim, so that at the end of one month thirty minims three times a day is taken. By accustoming the patient to the use of these salts by the above mentioned procedure a tolerance is established, so that even larger doses may be taken (if the occasion be sufficiently imperative to demand larger doses of these salts) with impunity. The best time for their administration is two or three hours after meals. A period of intermission, termed the longer interval of repose, is then allowed, which should not exceed one month.

2. Mercury in the metallic form (mercury and chalk) is then prescribed for ten days, followed by a bitter tonic for four days. For the subsequent two weeks all treatment is entirely suspended and the patient is ordered to take frequent baths, simple or medicated. This completes an intermittent or iodine cycle.

The subsequent cycles are similar to the preceding, except that the form of mercury is varied to correspond with the classification of mercurial administration as outlined under specific treatment.

With greater or less modifications, to suit individual cases, and to meet coincident indications and intercurrent conditions as they

arise, this constitutes the cyclical treatment of syphilis. Many a favorable and permanent outcome can be ascribed to this method of combating syphilis, and very few, if any, cases of recurrence have come under the observation of the authors. They are confident of the superiority and advantage of this method over the old, unsystematic, and irregular regimen.

CONSERVATIVE SURGERY.

BY F. A. STILLINGS, M.D., CONCORD, N. H.

In saying a few words on the subject of conservative surgery I do not wish the term to be confounded with what might be called "cowardly" surgery. Surgery may be called cowardly when through fear of results the surgeon delays action too long. Then he may operate never so well, but the result shows that it is not conservative surgery.

Conservative surgery to me means the utmost endeavor to conserve limb as well as life. It is very rare that a deformed or mutilated hand, foot, or arm is not of more service than an artificial one. So I say to amputate a mangled finger, hand, or foot is not conservative surgery, if there is the slightest possibility of bringing the torn and severed parts together; and a possibility almost always exists if one has the courage to try.

Before the days of asepsis, what might now be called cowardly surgery was good conservative surgery, because then the surgeon strove principally to conserve life; his experience and that of his teachers showed him that in many cases where the extremities had been mangled, it was wiser to make what he considered a clean amputation than to attempt to save the limb, with the almost certain result of sepsis. Many of us can remember when a compound fracture was viewed with the greatest alarm, and rightly so, as septicemia frequently followed any attempt to conserve the limb, and a compound dislocation resulted almost invariably in amputation or death.

At the present time I cannot imagine any one amputating for a compound fracture of the leg or arm. No matter how much the wound is soiled at the time of the accident, it is always possible to so sterilize the bones and soft parts that the injured limb can be put in splints the same as though it were a simple fracture. Of course, suppuration sometimes follows as a result of the death of bruised tissues, but the pus is harmless, and readily makes its way out of the wound if it is ventilated. One of the many falla-

cies I was taught was that a bone stripped of its periosteum would become necrosed, and I have seen amputation done for this reason. Within the past few years I have become convinced that destruction of a portion of periosteum does no more harm than a wound of the skin, and is repaired in just as kindly a manner.

Before referring to several cases I would lay stress upon the fact that in order to make an attempt at conserving a limb, one must of necessity be in a position to do absolutely clean surgery.

Some time ago I was called twelve miles into the country to see a man whose right arm had been caught in the machinery of a portable wood-sawing machine. The left shoulder was dislocated, and the right arm bruised and mangled from the palm of the hand to the shoulder. An open wound on the palmar surface exposed the proximal ends of the metacarpal bones. There was a compound comminuted fracture of radius and ulna at the junction of the lower and middle thirds; the skin on the dorsal surface of the forearm was torn open for a distance of five inches, from which were protruding the jagged ends of the broken bones and ends of ruptured muscles. He was miles away from any physician, and his immediate surroundings were such that it was impossible to give him the necessary care to save the limb. The only thing to be done there was to amputate. I laid the matter before him and his family, and he finally consented to being taken to the hospital, with the understanding that an effort would be made to save the arm. He arrived late at night, and with the assistance of Drs. Cook and McMurphy the whole arm was thoroughly sterilized; the ends of the bones were turned out of the wound and fragments removed. Both bones were then wired, the soft parts molded into shape, and an attempt made to close the skin, but it was found that so much of the skin was gone that this was impossible; so the arm was placed upon a splint and preparation made to treat it as an open wound.

In a few days considerable portions of the muscles necrosed and were cast out in the form of pus and sloughs. The daily treatment consisted of frequent irrigations of warm normal salt solution and keeping the arm in the best position to secure drainage by slinging it in a wire splint suspended from a cord running over pulleys and counterbalanced by a pail filled with just enough sand. He remained in the hospital seventy-three days, and when discharged the wounds were all healed except two small superficial ones, directly over the wired ends of the ulna and radius. The wire connecting the ulna has since sloughed out. A large amount of callus has been thrown about the fractured ends of the ulna,

but the radius shows little signs of repair as yet. If callus is not formed about it soon, the silver wire will be removed and the ends of the bones freshened. The forearm is being carried in a cradle splint with the hand and wrist free. He is gradually regaining the use of the fingers, and will undoubtedly in time have a useful arm with deformity. This case suppurated freely, but by constant care there was very little systemic effect from absorption of pus.

The second case was a male, aged twenty. Left leg was run over by a loaded box-car, four of the wheels going over him. Both bones were crushed from four inches above the ankle-joint, up about four inches, and badly comminuted. The soft parts were torn open, muscles twisted and torn, and the wound filled with dirt. The bottom of the right foot was torn off down to the fascia, from heel to base of toes, merely hanging by the skin on outer side of the foot. The shock was so profound that Dr. Conn agreed with me that it was inadvisable to amputate that night; but after the wound had been thoroughly washed it was decided to make an effort to conserve both feet, as well as life. Both wounds were thoroughly sterilized, and the bottom of the foot was sewed on. It is as well to say here that this healed without incident.

After dressing the foot, sutures of chromicized catgut were passed through the periosteum at the ends of the fractured bones of the leg, and instead of shortening the leg by pushing the foot up enough to have the bones meet, the space was filled by shingling on or overlapping small pieces of bone an inch and a half or two inches long that were lying free in the wound. These were joined to each other by small silver wires. The leg was then enveloped in an antiseptic dressing and immobilized. Many of the pieces of bone used in the shingling were entirely stripped of periosteum, but they united, making a strong, good-shaped leg. In this case a thin shell of bone about half an inch square was exfoliated, bringing with it one of the small silver wires. In about six months this man resumed work, and is at present a passenger brakeman, and no one to see him walk would suspect he had undergone such a severe injury.

The third and last case I shall mention was a compound dislocation of the right ankle-joint; the lower ends of tibia and fibula being thrust through the skin and resting on the base of the toes when he was brought to the hospital. As the man worked in a tannery, the wound was as soiled as possible, the joint being filled with loose dirt. The limb and wound were first washed with soap and water, then with ether, and finally with a 1:200

solution of formalin, the interior of the joint being thoroughly douched. The dislocation was then reduced, and the wound closed with interrupted sutures of kangaroo tendon and covered with formalin compresses. The joint was immobilized by the application of a plaster stirrup splint. The dressings were removed the first time on the eighth day, and union was found to be complete. The splint was not reapplied, and in about three weeks the joint was as mobile as before the injury.

A comparatively few years ago no surgeon would have been justified in attempting to save this man's foot.

In writing this short account of these severe injuries, I have had no thought of putting forth new ideas, but rather to encourage the younger men to attempt the conserving of limb as well as life, which in many cases requires more courage than to simply save life.

ACCORDING to a foreign exchange, a leading Berlin newspaper solicited subscriptions for the family of Herr and Frau Ludwig, the important event being the arrival of the twentieth child in the family. Herr Ludwig, not being by any means a millionaire, but a humble employee of the city gas works, and earning $5.50 a week, the Berlin paper assumed the responsibility of taking subscriptions for the needy family. In two weeks more than $1000 was raised, besides wagon-loads of food and clothing which arrived at the humble house of the parents. The event called forth statements relative to numerous births in German families, and Professor Ohlshausen reported to the Berlin Medical Society that he had run across the case of a woman who had twins eight times and triplets once, and in addition to that brood of 19, had given birth to six children besides—25 in all. The professor said that abnormal birth seemed to have been inherited by this woman, as her mother had had twins seven times, and her grandmother had gone through the same experience twelve times. The professor said this case appeared to be conclusive evidence that liability to "twinhood" was inheritable by daughter from mother.

THERE has been established in Philadelphia a society having for its object the distribution of pasteurized milk to needy children throughout the city. It has nine supply stations. Half of the milk distributed by the society is given free to applicants who present a medical practitioner's certificate that the milk is needed, and who are unable to pay for it. The other half is given at a nominal cost which puts it within the reach of all.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE AGE LIMIT OF USEFULNESS.

The age limit of a man's usefulness is a question which should perhaps be properly considered apart from the general question of human longevity or the average duration of life. How long a man should live has in itself only indirect relation to the issue which concerns itself with the cessation of man's usefulness. Professor Osler, according to the lay press, appears to have made some remarks on the subject of the age limit of usefulness which have not received general approval. The statements he made, whatever they may have been precisely, seem to have amounted to the expression of an opinion that a man's capacity for great undertakings or for effective work in which original research or individual energy were required came to an end somewhere about forty. It has certainly got to end somewhere. Age is just as feeble in its way as infancy, and an approximate date for its occurrence might as well be fixed simply as a matter of human convenience. Sixty probably fairly indicates the ultimate limit of usefulness—usefulness being considered in its widest sense as representing the acme of the individual constructive and creative energy.

Cornaro, who wrote on old age in 1612, fixes the normal duration of life in the mammalia at a term of five times the number of years required to reach their prime. A dog comes to maturity at two and lives till ten; a horse at five and lives till twenty-five; and a man therefore by analogy should not attain his life limit until he has reached somewhere about 115 years. But heaven forbid this should be true; it would place the whole world under the dominion of old-fogydom hopelessly beyond redemption. From the annals of antiquity the old men who have done things make mute appeals for sympathetic treatment. Cato

began to learn Greek at eighty, though history fails to tell us what proficiency he acquired therein. Sophocles completed his Œdipus at eighty or ninety, and Goethe wrote the last part of Faust in his declining years of life. Women, of course, never grow old. Ninon de L'Enclos had a very youthful heart when she was ninety. Helen of Troy did things and made men do things for her when she was at least mature in years even if green in judgment, and Anthony learned that Cleopatra burned with perennial fire though she had long passed the age when by courtesy she could be considered to possess the usual attributes of a spring chicken.

Nevertheless men grow old. The wear and tear of existence induce the immutable process of decay. The spark of life flickers like some candle's flame and occasionally manifests signs of delusive strength, but it goes out at last, and leaves us, as far as we learn, where Moses was when the light went out.

If Professor Osler cannot give us a "de Senecute" gospel more elevating than that which would decree the old man's insufficiency to be measured by Dr. Osler's conceptions of utility, he had better not have delivered his message. "The last of life for which the first was made," as Browning says, surely has something to give us. Is there nothing to be derived from the fruition of experience? Is there nothing in the sagacious counsel, the calm, contemplative, unimpulsive wisdom of the old man which is of use to us? It were better our philosopher change his focal point of observation and contact with human experience, that he gain new conceptions of utility, and that he at least learn that those who chase butterflies through the flowery fields may perhaps be pursuing the highest wisdom.

EDITORIAL NOTES.

Low Mortality in the Japanese Army.

We took occasion some time ago to comment on the efficiency of the medical corps of the Japanese army. Since that time, if newspaper reports are to be believed, the Japanese army has suffered very little from disease. During the seven and one-half months that General Oku's army has been campaigning there have occurred only forty deaths from disease. In 20,642 cases of sickness treated, 18,500 recovered in the field. The remainder were invalided home to be more advantageously cared for. Only 342

cases of dysentery and 133 cases of typhoid fever are reported. Such remarkable statistics have never before been shown. During our war with Spain the sickness in peaceful camps reached enormous proportions, and about 70 per cent of the cases died. As disease is much more dreaded by military men than bullets, the Japanese are to be congratulated on the organization and equipment of their medical corps. It is to be hoped that Congress will see fit to allow the additional medical officers asked for by the surgeon-general of our army, so that in the event of war we may be in a better condition to care for our soldiers than we were during the Spanish war. The Japanese have clearly shown that money expended in bringing the medical corps of an army up to its highest efficiency is well spent.

Pulmonary Tuberculosis Cured by Coal Dust.

In Upper Silesia, where coal mining is the chief industry, a medical man has recently found some surprising results in the treatment of pulmonary tuberculosis. This physician noted that among the illness prevalent in his district lung diseases occupied proportionately a very low place, and consumptive persons on coming to reside near the coal mines recovered their health after some time without undergoing any special cure. These facts he is prepared to verify by statistics. The cures are attributed by him to the coal dust contained in the atmosphere, which he alleges has a drying and disinfecting influence on tubercle developments in the lungs. Creosote, he says, in explanation of this, is derived from coal tar, and it may possibly be present in a crude state in the coal dust in the atmosphere. It is proposed to erect a sanitarium for consumptives in this district in order to test the efficacy of the new cure. As the profession is not at present by any means a unit in regard to the treatment of this disease, some new and valuable ideas may be learned from the results obtained in the mining district.

Sterility Caused by X-rays.

Almost every discovery in therapeutics sooner or later is found to have some drawback. The Roentgen ray, which has proved so efficient an aid in diagnosis and in the treatment of various cutaneous affections, is now charged with destroying the procreative function. The rays are said to destroy the power of the testicles to elaborate potent spermatozoids, and that of the

ovaries to produce ovules susceptible of fertilization. Up to the present time it has not been determined whether or not this effect is permanent. If it be determined that the baneful effects are permanent it will interfere materially with the use of the rays for purposes of diagnosis where the pelvic organs of women are involved. The uses to which the rays may be put by women who do not desire offspring may work for moral disaster. It is sincerely to be hoped that the dangers of exposing the sexual organs to the *x*-rays are overestimated.

Medical Defense Unions.

No class of workers are more liable to suffer annoying and vexatious suits for damages than medical men. In the majority of instances these suits are brought to escape the payment of bills rendered for services, and are practically blackmailing schemes. Of late a number of medical societies in this country have organized among themselves defense unions to defend their members in suits for damages. Where such unions exist every practitioner ought to avail himself of the opportunity of joining, and where they do not exist they ought to be formed at once. When people who are about to bring suit against a physician learn that he has a defense union with the best obtainable legal talent at his command, they usually defer or try to settle in some other way than going into a court of law.

Cancer in the United States on the Increase.

From statistics which have been carefully compiled it is seen that of late years cancer is on the increase in the United States. The basis of computation is made on every 100,000 of population. San Francisco shows a total of 103.6 against 16.5 forty years ago, which means an increase of over 500 per cent. A threefold increase is shown in Boston, where the statistics show 83 deaths per 100,000 from cancer in 1903, as against 28 forty years ago. The figures from other statistics show that in New Orleans the mortality from cancer has increased from 15 in 1864 to 82 in 1903; Philadelphia from 34 in 1864 to 70 in 1904; New York from 32 in 1864 to 66 at the present time. Figures such as these are certainly deplorable, especially so when so many master minds are at work attempting to solve the problem of how best to cope with this dreadful enemy to mankind.

ITEMS AND NOTES.

More than 250 cases of typhoid fever have developed in Winnipeg in the last seven weeks.

Dr. L. F. Barker has been appointed professor of medicine in Rush Medical College, Chicago.

The *Maryland Medical Journal* is preparing to publish an "Osler Memorial Number" June 1.

The Public Health and Marine Hospital Reports state that influenza is very prevalent in Berlin.

A memorial bust of Dr. Christian Fenger will be formally presented to the Chicago Medical Society soon by members.

In Lajose, Clearfield county, Pennsylvania, fifty cases of smallpox are reported from along the Pennsylvania and Northwestern Railroad.

Three deaths from yellow fever have occurred on the U. S. cruiser *Boston*, in the harbor of Panama, and several others of the officers and crew are ill with the disease.

The Princess Victoria, daughter of King Edward, underwent an operation for appendicitis on January 31. The operation was performed by Sir Frederick Treves, sergeant-surgeon-in-ordinary to the king.

The fourth International Congress of Obstetrics and Gynecology will be held at St. Petersburg, September 11 to 18, 1905. Professor von Ott, of St. Petersburg, is the chairman of the Organizing Committee.

Sir Henry A. Blake, governor of Ceylon, announced at a meeting of the Asiatic Society that Singalese medical books of the sixth century described 67 varieties of mosquitoes and 424 kinds of malarial fever caused by mosquitoes.

The combined nature-healing associations of Thuringen are, it is said, about to present a mass petition to the governing body of the University of Jena asking for the establishment of a chair of their special variety of quackery in that famous seat of learning.

THE fifth meeting of the Psychological Congress will be held in Rome from April 26 to 30. The Organizing Committee consists of Professors Luciani, Tamburini, Sante de Sanctis, and Sergi, to any of whom communications relative to the congress may be addressed.

AT the recent Havana meeting of the American Public Health Association the following officers were elected: President, Dr. Westbrook, of Minneapolis; first vice-president, Dr. Juan Guiteras, of Havana; second vice-president, Dr. Lopez, of Mexico; third vice-president, Dr. Macdonald, of Brandon, Manitoba.

THE municipal authorities of Marburg have decided to found an institution for the treatment of persons suffering from cancer. The directorship of the institution will be offered to Dr. Opitz, extraordinary professor of gynecology, who is reported in the daily press to have discovered a new method of treating cases of cancer hitherto deemed incurable.

THE Académié de Médecine of France and the Société Royale de Médecine of Belgium have proclaimed, says an exchange, the abuses liable to follow the insurance of the lives of infants and children. Communications were presented before these bodies showing the evil results of this custom, which seems to be widely prevalent in northern France. The French government has enacted a law which prohibits all insurance payable at the death of children under twelve.

PROFESSOR POSTEMSKI, of Rome, recently presented to the president of the Italian Red Cross Society the medical officers who had taken part in the campaign against malaria in the Campagna. The results have been highly satisfactory. The number of persons subjected to the prophylactic treatment with quinine was 11,962. Only 380 were attacked by the fever, of whom 67 had it as a primary and 313 as a relapsing disease. Some of the latter had suffered several times.

THE first light institute in Italy will shortly be opened at Florence. The institution owes its foundation to the initiative of the well-known dermatologist of an influential committee. The King of Italy and Queen Margaret have given generous support to the institution, and contributions have also been received from the authorities of the Commune and Province of Florence, from the Florentine Committee of the Italian Antituberculosis League, and from a large number of private persons.

E. Abbe died recently at Jena, aged sixty-four, says the *Journal of the American Medical Association.* He was the inventor of numerous improvements in instrumental optics, and to him bacteriology owes its marvelous strides in late years. He has been connected with the Ziess factory since 1860, and at the same time was honorary professor of astronomy and meteorology at Jena. His successful reorganization of the Ziess establishment was on a basis which tends to solve some of the more pressing social problems of the day.

The Bureau of the International Congress on Tuberculosis, to be held in Paris in October, 1905, met on December 20, 1904, and fixed certain points in the organization of the congress, enlarging the work of the sections and the scheme for the museum and exhibition. The president will be M. Herard, and the vice-presidents M. Chauveau and Professor Brouardel. The work of the congress will be conducted in two parts, each with two sections. Each of the sections will be autonomous, with its own president, vice-president, and secretary.

Prof. J. P. Remington, one of the editors of the United States Pharmacopœia, is quoted by *American Medicine* as asserting that drugs 100 per cent pure would be a thing of the past in this country with the issuance of the forthcoming publication. He says: "We shall recommend in this publication that pure drugs are not absolutely necessary. For instance, sulphate of quinine 99/100 per cent pure is just as good and effective as one absolutely pure, and it does not make any difference what the other one per cent is so long as it is not injurious. Now that it is recognized that chemicals need not be chemically pure we intend to introduce harmless foreign substances."

An International Congress on Accidents to Workmen will meet at Liege on the occasion of the Universal Exposition to be held there in June, 1905. M. G. Francotte, the Belgian Minister of Industry and Labor, and Baron van der Bruggen, Minister of Agriculture, are honorary presidents of the congress. The following is the programme of discussions as at present arranged: (1) Traumatic lesions and post-traumatic affections; (2) the organization of first aid to the injured, especially workmen who are the victims of accidents in the course of their work in large cities and industrial centers; (3) uniformity and centralization of medical statistics in regard to accidents to workmen; medical evidence relative to such accidents.

The medical profession is fairly well represented in the Senate of Canada as well as in the Canadian House of Commons. There are nine in the former and fifteen in the latter body. In the United States Senate there are only two, while there are none in the House of Representatives. France is still the country where medical men are most prominent in politics; in the Senate there are thirty-nine, and in the Chamber of Deputies fifty-one. Many of them, however, like M. Combes, M. Clemenceau, and M. de Lanessan, are politicians first and doctors only to the extent of holding diplomas.

Professor Grassi, of the University of Rome, lately instituted, in conjunction with Dr. Munaron, a series of researches on cretinism and goitre in the Valtellina district. According to a preliminary report of their results, the investigators have come to the conclusion that the cause of endemic goitre must be sought for in poisons derived from a specific microbe having its habitat not at first within the body of the patient, but in wet soil. They believe that these poisons gain access to the human body by the alimentary canal by means of various substances, among which drinking-water may be included.

The commission appointed by Harvard University, under the terms of the bequest of $100,000 by Mrs. Caroline Brewer Croft, says the *Medical Record,* to study cancer has prepared a report of its labors during the past four years. This report, which is now in the hands of the printer, will, if the advance statements of its contents are correct, contain little that is new. Its conclusions are said to be that cancer is neither hereditary nor contagious, that is not of parasitic origin, and that excision is the only cure, except in the case of certain superficial growths, which may be cured by radiotherapy.

An exchange says: "Traveling to cheat the doctors" is the reason given by John Sharmon, of Halifax, Yorkshire, England, who completed his seventy-ninth trip across the Atlantic when he landed from the White Star liner *Arabic.* Mr. Sharmon was worried during the last of the *Arabic's* voyage for fear he would not arrive in time to catch the *Umbria,* which sails early to-morrow morning. Once he arrived on the *Oceanic* with only nine minutes to spare to get on board the *Majestic.* Another time he was just in time to run from one incoming steamship to an outgoing one while they held the gangplank out for him."

NEW PUBLICATIONS.

ADOLESCENCE.

Dr. Stanley Hall, whose labors in the field of pedagogy are familiar to most students of mental medicine, has prepared a very valuable and extensive work in two volumes upon the subject of Adolescence in its various relations. Heretofore our knowledge of the morbid side of the question has been derived from the older works of Seguin, Ireland, Down, Clouston, and more lately Barr, but no one has so concretely described the development of the young brain and the relation of the child to crime, religion, and education, as well as actual disease, as the distinguished President of Clark University. The labor has been a great one, and the author is more than ordinarily equipped with a knowledge of psychiatry. This is best seen in those parts of the book which deal with degenerative involutional conditions evidenced by mental weakness, which, though not actual insanity, are closely allied to the well recognized psychoses. To those who are concerned with the responsibility of the young there is much that is suggestive, and in the determination of care, punishment, and education we are furnished with hints that will revolutionize the methods of the class of guardians and teachers who have hitherto been influenced by the theologo-metaphysical teachings of former days. If Dr. Hall's work has a fault it is that at times he adopts rather too confidently the unsettled theories of a school of progressive physiologists and psychiatrists, and this is especially shown in the chapters upon sexual subjects. Juvenile crime is well considered, and he recognizes the moral blindness of children which cannot be cured by ordinary intellectual training. "Criminaloid youth is more sharply individualized than the common good child, who is less differentiated. Virtue is more uniform and monotonous than sin. There is one right and many wrong ways, hence they need to be individually studied by every paidological method, physical and psychic."

The work will be read by many persons who are interested in general sociologic conditions and relations, and should be bought and studied by officials of criminal institutions, physicians, and teachers, for its appearance marks a distinct advance in our knowledge of the curious operations of the young mind. A. McL. H.

Adolescence. Its Psychology, and its Relation to Physiology, Anthropology, Sociology, Sex, Crime, Religion, and Education. By G. Stanley Hall, Ph.D., LL.D., President of Clark University, and Professor of Psychology and Pedagogy. Vols. I and II. New York: D. Appleton & Co., 1905.

NURSING IN EYE, EAR, NOSE, AND THROAT DISEASES.

This little book is written primarily for nurses, but students and practitioners may learn much from it. It is a safe guide to the intelligent care and nursing of the various diseases comprised in its title-page, and is written in an attractive style.

Eye, Ear, Nose, and Throat Nursing. By A. Edward Davis, A.M., M.D., and Beaman Douglas, M.D. Thirty-two Illustrations. The F. A. Davis Co., Philadelphia.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Surgical Wounds of the Cervical Portion of the Thoracic Duct.

R. Lecene (*British Medical Journal,* Jan. 28, 1905) publishes, together with a full report of a recent case treated by Terrier, abstracts of twenty-one collected instances of accidental wounding of the cervical portion of the thoracic duct in course of a surgical operation. Cases of this infrequent though not exceptionally rare lesion may be arranged in two groups: one in which the nature of the injury is apparent at the time of the operation, the other in which the indications of such an accident are not made out until a later period. In cases of the first group the characteristic sign of the injury is a flow that is sometimes rhythmical into the wound of a clear or a white and latescent fluid. The indications in the second group of cases are a discharge from the wound of lymph or chyle, and in course of time, intense thirst, emaciation, and general asthenia. The prognosis of this injury with regard to the life of the patient is not serious, one only of the twenty-two collected cases having a fatal ending; but it is necessary to bear in mind, the author points out, that serious results may follow a prolonged and excessive discharge of lymph from a fistula in the thoracic duct.

The treatment would vary according to the nature of the case. The surgeon, if he be aware of the nature of the injury before the completion of his operation, should endeavor to apply a ligature to the peripheral end of the wounded duct. In a very large majority of cases it would be useless, the author states, to tie the central end, as the ostial valve is competent to arrest the flow of lymph. Ligature of the peripheral end, as has been proved by clinical observation, and also by experiments on animals, is quite free from danger. In cases in which the injury escaped notice at the time of the operation, the best and simplest treatment, the author believes, is to pack the wound tightly and to do away with direct drainage. Free opening of the wound with the object of exposing and closing by ligature the opening in the duct might, it is acknowledged, be found practicable and successful, but such treatment would in most cases be found very difficult, and as simple packing is usually sufficient, quite useless.

Primary Sarcoma of the Bladder.

T. A. Wilder (*American Journal of the Medical Sciences,* January, 1905) concludes that sarcoma of the bladder is most common after middle life and during childhood, but it may occur at any age. It is more common in males than in females. The most constant symptom is hematuria. This cannot be considered an early sign in many cases. Next to hematuria the most constant symptoms are those of cystitis and vesical irritation. Emaciation consecutive to the growth is present in advanced cases only. A calculus may or may not be present. In females the growth may invade the urethra and appear at the vaginal opening. The disease is more rapidly fatal in children than in adults. In cases in which the diagnosis has been made early, the neoplasm has been small, single, and apparently localized. The growth may spring from the submucosa of any part of the bladder, but the most common location is at the base, in the vicinity of the ureteral orifices. The growth is usually sessile, with a broad base, soft and friable, more or less lobulated, and in some cases it has a cauliflower appearance. Although usually single, it may be multiple in the later stages. Metastases, as compared with sarcoma of other parts of the body, seem rare except in quite advanced cases. Several varieties of sarcoma have been reported as occurring in the bladder. The only hope at present for the cure of sarcoma of the bladder seems to lie in the early detection of the neoplasm by means of the cystoscope or by exploratory incision, and its complete removal at this stage of the disease.

Surgical Diseases of the Stomach.

H. W. Bettmann (*Lancet-Clinic,* Jan. 21, 1905) says that in America about one per cent of the population present a gastric ulcer or scar in the autopsy-room. As a clinical disease, not more than 0.2 per cent of all patients (not medical patients only) suffer from gastric ulcer.

Under appropriate treatment the severer complications of gastric ulcer can be largely prevented. The mortality from gastric ulcer is grossly exaggerated in surgical literature, and under proper medical treatment will not exceed four per cent in all classes of private patients. The American surgical literature on gastric ulcer abounds in exaggeration, crudeness, and recklessness. That gastric ulcer predisposes to gastric cancer to any marked degree is improbable. That the majority of cancers are

preceded by ulcers is certainly untrue. That gastroenterostomy would prevent such metamorphosis has not been demonstrated. Gastroenterostomy has a certain mortality. It often fails to relieve gastric disorders due to ulcer. It should be followed by careful dietetic treatment. It may lead to fatal complications irrespective of the primary disease. Pyloric obstruction is not in itself an indication for surgical interference. Many cases recover under medical treatment. Our patients will be best served if they submit to proper medical treatment and seek surgical advice only at the suggestion of their medical attendant.

Hepatic Abscess.

Hepatic abscess, according to C. H. Sharpe (*American Medicine*, Jan. 28, 1905), is a pathologic condition that has been recognized for centuries. It is wide-spread in its occurrence. The so-called "tropic liver abscess" occurs most frequently in the hot countries.

Sporadic cases of tropic liver abscess are encountered as exotic manifestations in the temperate zones.

It is impossible to tabulate definitely a general ratio of frequency of occurrence.

Hepatic abscess is at times the result of trauma; usually, however, the result of invasion of the hepatic tissue by various forms of parasites, protozoa, and pyogenic organisms.

That form commonly known as "amebic abscess of the liver" is in reality not an abscess, but rather a necrosis and liquefaction of hepatic tissue. When pus is encountered it is the result of contamination by pyogenic organisms.

Tenotomy of the Tendo Achillis in Partial Amputations of the Foot.

T. P. Webster (*Lancet-Clinic*, Jan. 21, 1905) says that it is a well established clinical fact that after a tenotomy of the tendo Achillis (when the foot is kept at rest) a process of repair does take place, and satisfactory functional use of the foot is the result.

It is much easier to maintain the foot in the exaggerated flexed position after the tenotomy of the tendo Achillis than with any form of splint, anterior or posterior, metallic or plaster.

There is much less pain, as the foot and ankle-joints are placed at absolute rest.

When the patient commences to walk none of the resistance of the contracted heel cord is present, so there is but a slight limp.

In oblique and comminuted fractures of the tibia there is much less danger of overriding of the fragments of bone after a tenotomy. This greatly simplifies the care of the leg and helps to prevent deformity.

The Surgical Treatment of Meningitis

L. Marique (*Archives of Pediatrics,* January, 1905) discusses the value of lumbar puncture in reference to its diagnostic and curative effect on epidemic cerebrospinal meningitis and meningitis of tubercular origin. As a diagnostic agent its importance has long been established. From a therapeutic standpoint the statement is made that repeated puncture is of marked value in epidemic meningitis, but is without effect in the tubercular variety. The latter requires trephining with drainage of the subarachnoid space, incision of the dura, ventricular puncture, or drainage. This, of course, is an extremely precarious undertaking, and accompanied frequently by numerous disappointments and many failures. However, in so far as the tubercular process may predominate in the meningitis, it may be said that surgical interference here should be regarded with hope, especially in cases amenable to no other treatment.

Ptosis of the Abdominal Aorta.

B. Stifler (*British Medical Journal,* Jan. 28, 1905) describes two types of this condition—a dilated form and a contracted form. Amongst general conditions which predispose to ptosis of the abdominal aorta he enumerates constitutional weakness, convalescence, diminution or increase of intra-abdominal pressure, overstrain due to lifting and carrying in attendance on the sick, or to sport, or too tight lacing. As specially predisposing conditions he mentions relaxation following gynecological or surgical interference, drastic measures for the reduction of fat, massage, water cures, other so-called "nature" cures which interfere with the abdominal circulation, shaking of the lower part of the body as in paralysis agitans or hysteroepilepsy, and most frequently of all defective supports intended for the correction of wandering kidney.

Zinc Chloride in Infected Wounds.

P. Brose (*Deutsche med. Wochenschrift,* No. 52) in his experiments made on rabbits showed positively that a wound cauterized with a 50-per-cent solution of zinc chloride is protected against infection. This result was obtained even with the most virulent infection, and when the interval of one minute had elapsed between the making of the wound and the cauterizing of it. He was unable to demonstrate that zinc chloride even in the strongest solutions was an antiseptic. His experiments showed that the severity of the infection varied according as the germs were driven into the tissues or not.

Narcosis under Compressed Air.

Engelken (*Deut. med. Wochenschrift,* No. 51) introduces a new method of applying narcosis while the subject is breathing compressed air. His apparatus consists of a cabinet in which the anesthetist sits, and which also encloses the head of the patient. This leaves the operator and the operation under normal atmospheric pressure, and enables the operation to be viewed by others. The cabinet is made movable, and the ventilation is so contrived that the vapors of the anesthetic do not reach the anesthetist.

MEDICINE.

Subcutaneous Alimentation.

Arthur E. Barker (*American Medicine,* Feb. 11, 1905) gives the results of several years' personal experience in surgical cases with infusions, both subcutaneous and intravenous, of physiologic saline solution and of glucose, the latter being added as a food. The advantages of saline infusion consist (*a*) in the introduction of water, which is often badly needed by the tissues; (*b*) in the dilution of toxins; and (*c*) in the increase of elimination. One special effect of the loss of water in the tissues under certain pathologic conditions is the irritability of the nerve centers, requiring only some accidental stimulus to call forth explosive action. Barker prefers this to the theory of intoxication through absorption of some fermentative product. It is possible that subcutaneous injections of a half liter of saline solution with glucose produce or encourage leucocytosis and phagocytosis. Saline solution may be made the means of conveying oxygen to the blood

directly, and so stimulating the heart in cases of shock. The method is to shake up with the warm saline solution about one-tenth of its volume of pure oxygen and introduce this by puncture into a vein. Subcutaneous infusion would not answer. Oxygen is also administered by the lungs at the same time. So far it has only been a question of supplying water to the tissues safely, the sodium chloride being merely added to make an isotonic solution. It is desirable at times to do more than introduce water. Often the rectum is unavailable for alimentation, or it is necessary to supply food more rapidly than is possible by the rectum. Barker has for many years employed pure glucose for this purpose. A 5-per-cent solution in distilled water has a freezing point of 0.66° C., isotonic with the blood. It is well not to trust the sterility of such solutions too long. They should be injected at about blood heat, otherwise they cause pain. In some cases the effects are very remarkable, and in no case could any injury be traced to the injection either when used to prepare a patient for operation or to combat the exhaustion following the operation. Barker has had only a limited experience of the subcutaneous injection of olive oil, and is not prepared to speak definitely concerning it. It still remains for chemists and physiologists to devise some solution which when injected subcutaneously shall bring to the system more complex food.

Rupture of the Muscles in Typhoid Fever.

This somewhat uncommon complication of typhoid is described by D. Perachaud (*British Medical Journal,* Jan. 14, 1905). Considering the frequency of muscular lesions in typhoid, it is curious that rupture should seldom occur. Violent movements, such as take place in delirium, appear to be the chief cause, the muscles most usually affected being the rectus abdominalis. As a matter of fact the real cause is not accurately known. The male sex is most usually affected. Muscular rupture occurs in the third week or during convalescence, and sometimes accompanies degeneration of the bony structures. The author describes a most exceptional case in which rupture occurred between the fifth and sixth day of the disease. The patient's mind is usually clear; he is conscious of a feeling of prostration, and at the time of rupture of sudden pain and tenderness sufficiently severe to cause him to cry out. Examination at this time reveals an irregular depression outlined in the substance of the abdominal rectus.

The sizes vary. A little later swelling due to hemorrhage is noticed; the condition may be unsuspected until the hematoma is noticed, which forms an ovoid tumor with the lesser extremity pointing to the pubes. It is rare for it to exceed the size of an orange. The skin is movable, and it is even possible to slightly displace the tumor laterally. In due time an ecchymotic tinge appears in the skin, varying in its intensity according to the thickness of the muscle and the impermeability of its sheath. Sometimes hemorrhagic discoloration is first noticed below the pubes and at the upper part of the thighs. Absorption may take place, but is not so usual as suppuration, which occurred sixteen times in thirty-five cases, and appears to be due to the presence of Eberth's bacillus. The prognosis is grave, chiefly because muscular rupture occurs in cases of severe typhoid, death being due to myocarditis or some other complication of the disease. But even in those cases where death is not due to one of the usual complications of the disease, suppurating hematoma is serious, as the resulting abscess may point internally, and set up septic peritonitis. So soon as the diagnosis is made surgical interference is called for, as delay may expose the patient to risk.

The Antitoxin Treatment of Diphtheria, with a Plea for Rational Dosage and Immunizing.

At a recent meeting of the Philadelphia County Medical Society, B. F. Moyer (*New York Medical Journal,* Jan. 28, 1905) of the Municipal Hospital reported a series of tables from the statistics of the boards of health in Chicago, New York City, Brooklyn, and Philadelphia, which proved an actual decrease in the loss of life in each city respectively of 5400, 8204, 951, and 1853—a total in these four cities, without allowing for increased population, of 16,408 lives. By means of a preliminary table from the twelfth census a reduction of varying numbers in 100,000 population was shown in thirty large American cities.

By a table including 67,748 patients treated in the Metropolitan Asylums Board Hospital a decrease in death-rate of 15.24 per cent was shown. By a table from the South Department in Boston, reporting 16,544 cases, a decrease of 29.26 per cent was shown. In the Municipal Hospital, reporting 10,219 cases, a decrease of 10 per cent was proved.

The paper ended with a plea for a dose of antitoxin in proportion to the amount and situation of the exudate. Large doses

were recommended in nasal, nasopharyngeal, and laryngeal diphtheria. A plea was made for a more general use of antitoxin as an immunizing agent. A strong plea was made for its use earlier in the disease, without waiting for culture returns.

The dose in use at the Municipal Hospital was: For tonsillar exudate (single), 2500 units; purely tonsillar (double), 5000 units; tonsillar exudate with pillars and uvula or pharynx involved, 7500 to 10,000 units; nasal and any other part involved, or for laryngeal diphtheria, 7500 to 10,000 units. Repeated the dose in each type of disease in from twelve to twenty-four hours, depending upon the signs of improvement, and every twenty-four hours thereafter; when a large amount of exudate persisted, a dose of 5000 to 7500 units was given until a good part of the exudate had disappeared.

Action of the Liver on Diphtheria Toxin.

Lander and Brunton (*Journal of Pathology and Bacteriology,* November, 1904) have circulated diphtheria toxin through the freshly isolated livers of rabbits and cats and investigated the effects produced by inoculating into guinea-pigs material recovered from the livers. They find that during the circulation of diphtheria toxin through the liver its lethal action is greatly diminished. This diminution occurs whether the toxin be mixed with an indifferent fluid or with blood. The bile and the juice from such a liver have a slight antitoxic action, and nucleoproteids separated from the liver juice possess this action in a marked degree. The behavior of the liver in lessening the toxic power of diphtheria toxin is regarded as similar to that which it exerts in ordinary digestion in lessening the toxic action of peptones. These experiments are held to support the view that "immunity, natural or acquired, is nothing more than an extension to the cells of the tissues generally of a power which is constantly exercised during digestion by those of the intestine and liver."

Nasal Disease as a Cause of Headache.

Nasal disease, according to A. L. Whitehead (*British Medical Journal,* Jan. 28, 1905), is undoubtedly the cause of headaches in a certain percentage of cases, although it is doubtful whether it is possible for headache to be produced by any nasal

condition which does not give rise to discharge or to obstruction to normal nasal respiration.

In all cases of persistent headache a careful examination of the nose should be as much a routine practice as the examination of the urine, the teeth, and the eyes; since in some instances the nasal symptoms may be ignored by the patient, and a careful examination of the nose will be necessary to establish the diagnosis.

Suppuration in the accessory sinuses and marked nasal obstruction, constant or intermittent, should be thoroughly treated.

Small spurs, deviations, and hypertrophies not causing obstruction should be left alone, as no relief will be given from the headaches by treatment of these.

If the middle turbinate bones are enlarged and pressing upon the septum, especially upon the tubercle, and if all other possible causes of headache have been eliminated, partial removal of the hypertrophied bone should be advised, since in many cases relief is given.

Increasing the Resistance of the Peritoneum.

L. Borchart (*Deutsche med. Wochenschrift,* No. 49, 1904) after a long series of experiments states that it is possible to materially increase the resisting power of the peritoneum by preliminary injections of physiologic saline solution. Both this author and Mikulicz have demonstrated that a preliminary injection of nucleinic acid, physiologic saline solution, or horse serum will increase the resisting powers of the peritoneum and thus assist the surgeon during operation. Borchart found that salt solution is just as effective as nucleinic acid, and is to be preferred on account of its non-toxicity. The injection should be made forty-eight hours before operation, and the increased resistance lasts for about four days.

Fever in Biliary Colic.

Ehret (*Zeitschrift f. klin. Med.,* Bd. 55) believes that the fever found so often in biliary colic cannot be attributed to reflex caused by the irritation of the gall-passages by the stone, but is due to microörganisms found in the infected gall-bladder and ducts. When fever does not manifest itself in biliary colic we may conclude that there is no complicating infection.

Avenue of Infection in Pulmonary Tuberculosis.

Wasserman (*Berl. klin. Wochenschrift,* No. 48) observed in a number of cases the following mode of progression of pulmonary phthisis: The mucous membranes of the upper air-passages, especially the tonsils, become first infected by means of dust or other tubercle-laden material, next the lymph glands of the neck, and from there the parietal pleura by way of the lymph metastases; the visceral pleura by coming in contact with the latter lesions allows the disease to extend to the lung tissue.

THERAPEUTICS.

Peroxide of Hydrogen in the Treatment of Infantile Dyspepsia.

Milk treated with peroxide of hydrogen in the proportion of one or two grammes of a 12-volume solution to 100 to 200 parts of milk seems to acquire properties comparable to those of kephir. It checks vomiting and diarrhea, and is readily taken by children. Peroxide of hydrogen acts in the stomach as a eupeptic, and since it is a very powerful antiseptic it doubtless acts as such both in the stomach and in the intestines. These interesting results were communicated to the Paris Therapeutical Society at a recent meeting by M. Gallois, M. Flourens, and M. Walter (*Lancet,* Jan. 7, 1905). In a general way gastrointestinal antiseptics exercise an inhibitory influence not only on microbial ferments, but also on the normal ferments of the organism. Peroxide of hydrogen is, however, both antiseptic and eupeptic. It is thus particularly indicated in cases of atonic dyspepsia accompanied by abnormal fermentation.

The Treatment of Lobar Pneumonia in Infancy.

John L. Morse (*American Medicine,* Jan. 28, 1905) says that the treatment is hygienic and supportive rather than medicinal. Far more harm can be done by overmedication than by undermedication. The infant should be disturbed as little as possible. It must have the greatest amount of fresh, cool air—if possible, it should be kept out-of-doors during the day; next best, close to an open window. The diet must be carefully regulated to suit the weakened digestion, and the food forced, if necessary. Stim-

ulation should be used when indicated, and not as a routine measure. Strychnine is most useful; alcohol comes next; others are rarely necessary or advisable. The fever should not be treated unless it causes marked nervous symptoms or depression. It should then be treated by cold externally and not by coal-tar antipyretics internally. Cold must be used cautiously, as infants bear it badly. Fan baths and cold packs are usually better borne than sponge or tub baths. Cold applications to the head may cause great depression, and must be used, if at all, with great caution. Local applications should not be used except for pain, for which hot applications are better and safer than cold. Bromide and codeine may, if necessary, be used for restlessness, if it is not relieved by simpler and more rational measures. Oxygen sometimes relieves cyanosis. The so-called "specifics," including creosote in its various forms and the various serums, have, in the author's opinion, no effect on the course of the disease.

Treatment of Wounds with Balsam Peru.

Burger (*Münch. med. Wochenschrift*, No. 48) in treating a great number of crushed fingers which were contaminated with oil and dirt obtained good results with balsam Peru. He treated such wounds for a period of twelve years by thoroughly cleansing with bichloride solution and then dressing with Peruvian balsam, changing the dressing every second or third day. He believes these good results are due to the cinnamic acid in the balsam, other advantages being that the dressings do not stick. He also recommends it in ulcers of the leg.

A New Method of Treatment of Ankylosed Elbow.

Schanz (*Münch. med. Wochenschrift*, No. 50) performed the usual operation on the elbow, but to prevent a recurring ankylosis he placed between the freshly cut surfaces of the bone a flap of subcutaneous adipose tissue, suturing it in place. The joint was placed in a cast, which was removed in one month, and three weeks after removal of the cast the patient could move her arm freely, and three months after the operation could brush her hair, eat, etc. The thick flap prevented the growth of connective tissue adhesions, while its porous character permitted movement impossible with a denser tissue.

Treatment of Tubercular Ascites.

Schomann (*Centralblatt f. Chir.*, No. 48) for the last three years treated ascites by puncture and iodoform injections, using a large cannula to remove the fluid, and then injecting one to two cubic centimeters of a one-per-cent glycerin-iodoform emulsion, which is gradually increased every four to eight days. Seven adult cases were cured in three to ten weeks, and two children were relieved after the second injection. He recommends this procedure in patients whose strength is insufficient to stand a laparotomy.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

The Pathogenesis of Syphilitic Recrudescences.

The clinical course of syphilis presents so many puzzling features that it has always furnished a fruitful source of speculation to pathologists. The fact that a disease may give rise to repeated relapses years after its beginning, and that serious sequelæ not infrequently develop after even decades of apparent health, is sufficiently curious to account for the circumstance that even the master minds of medical science have not been able to furnish unassailable explanations for the phenomenon. At the present day theorists are necessarily hampered by a lack of knowledge as to the contagium concerned, and it is probable that only the discovery of the exact character of the syphilitic virus and its relationship to the various pathological changes manifested by different phases of the malady will permit a satisfactory insight into the nature of the disease process. So long as this remains obscure, the problem must be approached from the clinical side, and the chances of error are necessarily large.

Virchow considered that the spasmodic character of the outbreaks indicated an irregular outpouring of active virus into the blood, thus giving rise to virtually fresh infections. The lymph nodes were to be regarded as the depositaries of the latent virus, which from time to time was set free, entered the blood, and brought about a renewal of the symptoms.

Finger adopted a radically different stand and assumed a bacterial nature of the virus as his point of departure. In an extensive critical study, published in 1890, he came to the conclusion

that the primary and secondary lesions were caused by the virus itself, but that the immunity and tertiary symptoms were the result of metabolic products of the virus which gave rise to special reactions of the organism leading to the development of the late manifestations. This view was supported by the quasi-chemical affinities of the two types of lesions, the early ones due to the virus responding to mercury, whereas the others, depending on the reaction products, are most easily influenced by iodine.

Lesser, in a contribution to the recent Festschrift dedicated to Senator, adopts the older hypothesis of Lang. This author presupposes that at the time of infection the virus is carried by the blood into all the tissues, and occasions the early manifestations. The virulence of the deposited contagium gradually abates, but it still for a time retains the ability to incite recrudescences of the symptoms. After a variable period it is either partially or entirely destroyed, and in the former cases is modified to such a degree that it loses its infectious nature. During this period of dormancy it remains quiescent, unless some, often external, stimulus provokes it into action and gives rise to the late manifestations of the disease. This view is in harmony with the clinical observation that the early lesions are apt to be symmetrical, while the late symptoms are characterized by asymmetry. Lesser cites several cases in support of this theory, in which recurrences of the skin eruption took place in the pigmented spots left behind by the first exanthem. He summarizes his conception of the matter by stating that in the eruptive stage the entire body is flooded with syphilitic poison, and that this is deposited more or less uniformly in numerous foci which serve as sources of relapse during the course of the disease. As the length of time after infection increases, more and more of these persisting germs perish, and they may finally disappear completely.

The practical bearing of this assumption lies in its application to the therapeutical management of the disease. In order to hasten the diminution and neutralization of these depots of latent virus frequent repetitions of the course of medication are necessary, and the advocates of intermittent mercurial treatment should find a potent argument for their cause in this theory of the pathogenesis of late syphilitic manifestations.—Editorial in the *Medical Record*, Jan. 28, 1905.

THE MEDICAL AGE

VOL. XXIII. DETROIT, MARCH 25, 1905. No. 6.

ORIGINAL CONTRIBUTIONS.

THE FORM OF THE URETER—(A) ISTHMUSES, (B) DILATATIONS.

BY BYRON ROBINSON, CHICAGO.

During the past three years I have distended some 200 ureters of man and animals with liquid paraffin, air, and other material under similar conditions. The experiments have demonstrated that the ureter is a non-uniformed, calibered duct, that it has three isthmuses—proximal (3), middle (5), distal (7); and three dilatations—proximal (calyces and pelvis, 1, 2), middle (lumbar spindle, 4), distal (pelvic spindle, 6). The ureter is becoming more important in modern medicine with a continuous extending field. In function (physiology) and structure (anatomy) the ureter is an organ as independent as the heart, uterus, stomach, and lung. Of vital importance is the anatomic fact that man's ureter possesses three constant isthmuses (constrictions) and three constant dilatations practically constant in location because ureteral calculus becomes obstructed at the constrictions or isthmuses, and that ureteral surgery should be performed at the dilatations, where ample ureteral lumen and wall exists for surgical manipulations, as the ureter is approached with facility extraperitoneally through the lumbar route—the Hotz-Simon incision—without the necessity of a single vascular ligation. The ureteral isthmuses and dilatations are heritages from the Wolffian body enhanced by environments, especially the erect attitude. (Mammals, herbivora, solipeds, carnivora, rodentia possess ureteral constrictions and dilatations; however, I could not establish distinct and constant locations for the same).

The ureter consists of (*a*) calyces, (*b*) pelvis, and (*c*) ureter proper.

(A) URETERAL ISTHMUSES.

There are three constant ureteral isthmuses, viz.: (I) proximal (3); (II) middle (5); (III) distal (7).

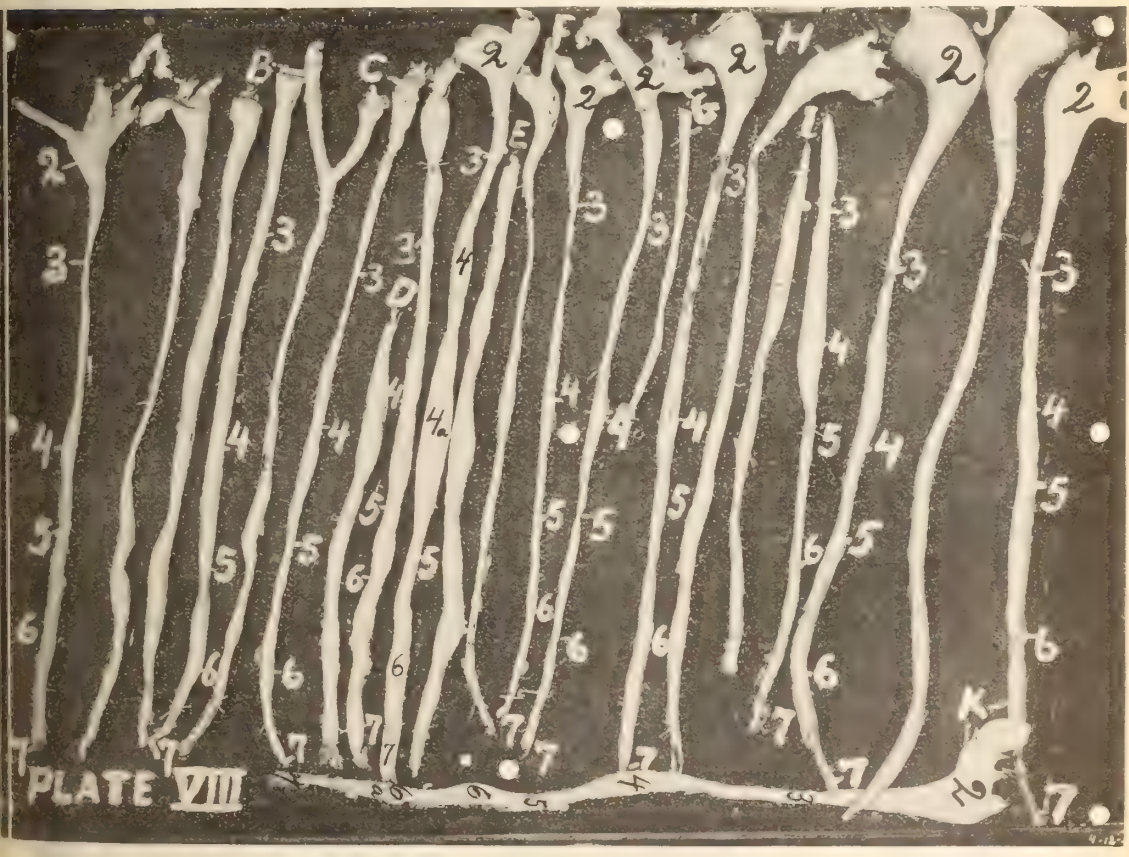
I. *The Proximal Ureteral Isthmus (Neck, Constriction).*—The proximal ureteral isthmus is the constriction located adjacent to the distal renal pole. It is the so-called neck of the ureter. It appears to be due to angulation or flexion produced in the ureter by the medial projecting distal pole of the kidney.

Three important factors are associated with the proximal ureteral isthmus, viz.: (*a*) it corresponds to the elbow-like curve of the ureter adjacent to the distal kidney pole; (*b*) the ureter is extensively dilated proximal to the isthmus; (*c*) the lumen of the proximal isthmus is considerably narrower than the adjacent proximal or distal portions.

At present, in man, it is not always located immediately at the distal kidney pole, but at a variable distance, one-half to three inches. It may be situated one and one-half to four inches distal to the hilus renalis. I found many times the proximal isthmus considerably removed from the renal pole, and one can locate the proximal ureteral isthmus—*i.e.*, the union of pelvis and lumbar segment—only by the reduced caliber, constriction, or neck of the ureter. The proximal isthmus at the present stage of erect animals is not a fixed point. In a limited number of ureters one cannot locate the proximal ureteral isthmus. The proximal isthmus may measure one-seventh to one-tenth of an inch in diameter, and frequently is the most limited caliber of the ureter. In distending ureters with paraffin fluids, air, the narrow proximal isthmus is easily observed, with its angle or flexion, fixed quite strongly adjacent to the distal renal pole by connective tissue, and occasionally lying in a renal groove. The proximal constricted isthmus (one-tenth inch in diameter) is of vast significance because it will offer the first obstruction to renal calculus. Practically it is the proximal sphincter or neck of the ureter. The proximal ureteral isthmus is practically constant for all ages and sexes; it may be a point or an inch in length. Paraffin casts will alone detect the most limited constriction of the ureter, which averages perhaps one-tenth of an inch in diameter. The proximal ureteral isthmus is so pronounced in its constricted, limited lumen that in making paraffin casts of the ureters fractures almost always occur at the proximal ureteral isthmus. Investigation showed that when general ureteral dilatation occurred the proximal isthmus, the thick-walled sphincter, was not involved (nor were the other two ureteral isthmuses). The limited lumen of the

proximal ureteral isthmus impedes the flow of urine, causing a dilatation proximal to it—the proximal ureteral dilatation (calyces and pelvis).

In ureteral surgery it is important to recognize the proximal ureteral isthmus, as it is so narrow that it may be, and I think has been, by celebrated surgeons mistaken for a ureteral stricture. A flexion or torsion is liable to arise at the proximal ureteral isthmus producing obstruction to the urinal stream, with consequent hydroureter (of the ureteral calyces and pelvis). During the changing position of man's body from the horizontal to the erect attitude the ureteral torsion or flexion



Read from left border to right. The ureters shown in this plate were distended with liquid paraffin under similar conditions. The ureteral isthmuses are numbered 3, 5, 7. The ureteral dilatations are numbered 1 (calyces), 2 (pelvis), 4, 6. A (1, right; 2, left), man, middle age. B (3, right; 4, left), man, aged 37. C (5, right; 6, left), man, aged 75. D (7, right; 8, left), man, aged 28. E (9, right; 10, left), man, aged 55. F (11, right; 12, left), man, aged 46. G (13, right), man. G (14), beaver. H (15, right; 16, left), man, aged 65. I (17, right; 18, left), woman, aged 31. J (19, right; 20, left), man, aged 58. K (21, right; 22, left), man, aged 58. Ureter No. 22 lies parallel to the lower margin of the photograph.

will change in intensity; hence the hydroureter will be irregularly intermittent. In the distalward movement of the kidney the proximal ureteral isthmus is liable to flexion or torsion, because in numerous ureters it is of extremely limited caliber. In observing the limited caliber of the proximal isthmus, in 37 distended and *x*-rayed ureters and 170 ureters filled with air, red lead, starch, etc., one is surprised that obstruction by flexion or torsion is not more frequent at the proximal isthmus. Frequently it is so narrow that one might mistake it for ureteral stricture. Ureteral explorations and the *x*-ray frequently detect calculus lodged at the proximal ureteral isthmus. Over 50 per cent of calculi are obstructed at the proximal ureteral isthmus.

II. *The Middle Ureteral Isthmus (Constrictions).*—The middle ureteral isthmus is located at the point where it crosses the iliac vessels. It is about one-seventh of an inch in diameter. It is an original constriction from the Wolffian body, and its pronounced state is doubtless due to the erect attitude, causing a flexion in the ureter as it curves over the iliac vessels and enters the lesser pelvis. In quadrupeds practically no ureteral angle and consequently no isthmus exist at the iliac vessels. There is a distinct ureteral flexure or angulation at the iliac vessels in erect animals as in man, and I shall term this *flexura iliaca ureteris* (flexura marginalis ureteris—G. Schwalbe). The middle ureteral isthmus is significant, as it offers the second obstruction to ureteral calculus; it is at a fixed bony point, the sacroiliac joint; it is the most adjacent to the anterior abdominal wall, and is the most prominent and accessible for palpation.

The flexura iliaca ureteris is not only flexed at an angle of 140 degrees, but is also constricted to one-fifth or one-seventh of an inch in diameter. Though the middle ureteral isthmus is frequently limited in caliber, calculus lodges relatively seldom at this point; for if a calculus is sufficiently limited in dimension to pass the proximal ureteral isthmus, it will traverse rapidly through the large lumbar ureteral spindle, acquiring such slight accretions that will generally pass with facility through the larger middle ureteral isthmus. Also the rhythm of the arteria iliaca on the ureter, which rests on the artery, will facilitate distalward movement of the calculus. In certain cases the middle ureteral isthmus—flexura iliaca ureteris—may be located a short distance proximal or distal to the vasa iliaca. In some cases, especially in women, the middle

ureteral isthmus is pronounced, presenting a ureteral dilatation proximal and distal to the isthmus.

The *x*-ray and paraffin casts of the ureter show that the right

This plate presents nine pairs of ureters distended with paraffin, illustrating the three ureteral isthmuses and the three ureteral dilatations. The ureteral isthmuses are 3, 5, 7. The ureteral dilatations are 2, 4, 6. Observe how easily the ureter could be obstructed by flexion or torsion at the isthmuses, or how the ureter could become obstructed at the ureteral isthmuses by calculus.

middle ureteral isthmus is shorter and liable to be narrower in lumen than the left. Perhaps the flexion or angulation is greater. The *x*-ray and ureteral exploration not infrequently detects calculus at the middle ureteral isthmus.

III. *The Distal Ureteral Isthmus (Constriction).*—The distal ureteral isthmus is located in the wall of the bladder at the distal end of the ureter. It is situated at the external angle of the vesical trigone. In general, it is the narrowest part of the ureter, one-twelfth to one-tenth of an inch in diameter. It penetrates the muscularis of the bladder, after which it lies immediately beneath the vesical mucosa, ending at the external angle of the trigone. The distal end of the ureter is separated from the bladder wall by a cylindrical layer of connective tissue, making both ureter and bladder wall functionate separately, independently. It passes for three-fourths of an inch obliquely through the bladder wall, and from this anatomic fact forms one of the most wonderful automatic valves. Fluids may pass the distal ureteral isthmus distalward, but cannot return proximalward—no regurgitation occurs. It is the third ureteral isthmus, sphincter, ending in the bladder mucosa as an oval slit.

The distal ureteral isthmus is of vast importance, as it is the third point of ureteral resistance to renal calculus, the most constricted point of the ureter, and hence obstructs calculus the most. It is the initial difficult point of ureteral catheterization, lies at the external angle of the trigone, and forms the valve to prevent regurgitation of urine. It ends in a sensitive, smooth area—the trigone. Ureteral isthmuses, sphincters, have a large blood supply (nourishment); a delicate nerve supply (sensation, rhythmic); a complicated lymph supply (infectious disease); and a constantly changing caliber (rhythmic ring muscle). Ureteral isthmuses obstruct renal calculus, and *x*-rays and ureteral exploration demonstrate calculi in the ureter proper with equal frequency as in the ureteral pelvis and calyces—*i.e.*, the proximal ureteral isthmus obstructs about 50 per cent, while both the middle and distal ureteral isthmuses obstruct about 50 per cent of calculi.

The ureteral sphincters or isthmuses are periodically, rhythmically functionating structures, which allow the intermittent passage of quantities of urine. These ureteral isthmuses are both of hereditary and mechanical origin, due to the medial projection of the distal renal pole, the projecting iliac vessels and margin of the pelvis in the erect attitude, and obstructing bladder

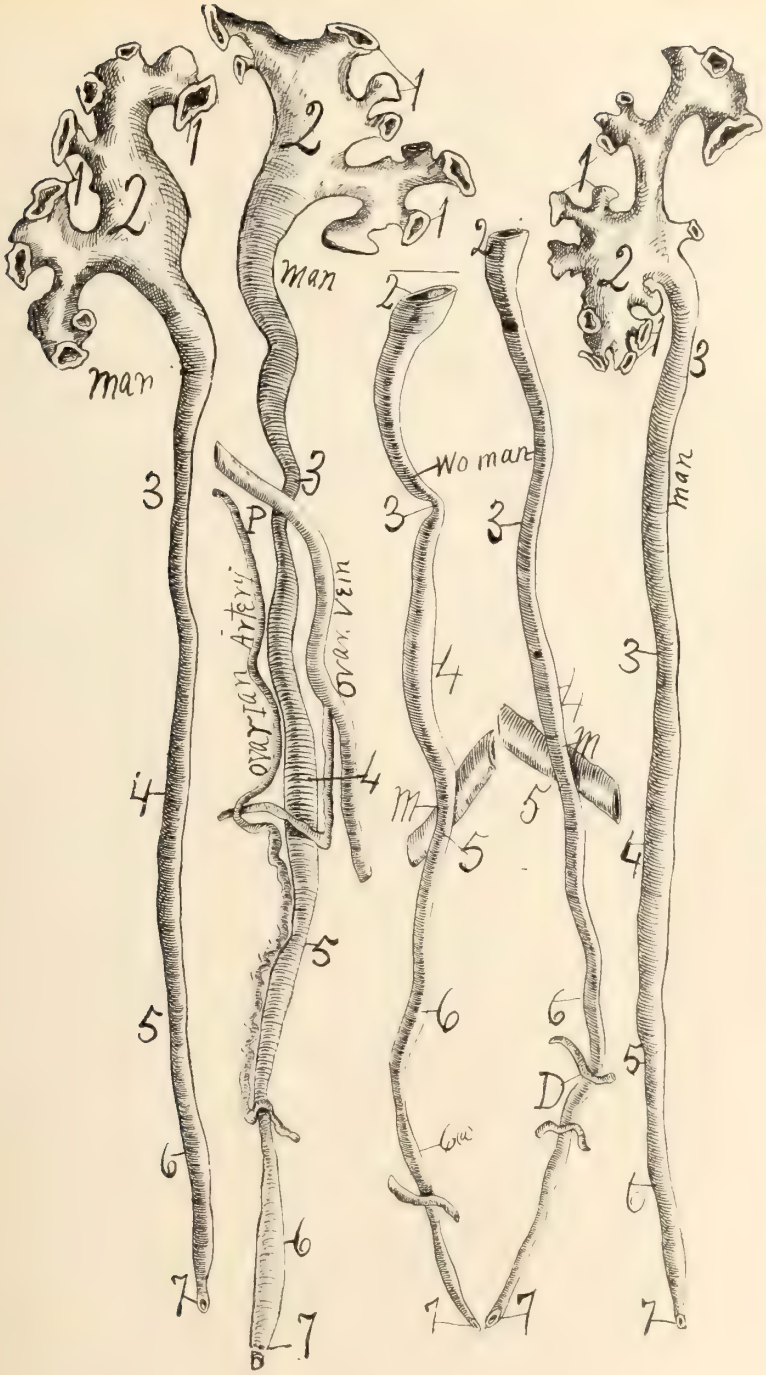


FIG. 1.—The five ureters in this illustration were injected with starch mixed with red lead, after they had been removed, with the kidney, peritoneum, and vessels in such a manner that they would be retained *in situ*. They were then *x*-rayed and drawn exactly after the *x*-ray as a model. Of the above five ureters three possessed calyces and pelves, and two not. The spindles are obvious, especially those of the woman at 4 and 6. There frequently exists two pelvic spindles, 6, 6*a*. Observe the ureteral calyces and pelvis. The major distal arm of the calyces is practically a lateral tributary, while the major proximal arm of the calyces is the principal indirection; however, the proximal arm has one or two less calyces. The ureteral isthmuses are 3, 5, 7. The ureteral dilatations are 1 (calyces); 2 (pelvis), 4, 6.

wall. The three ureteral isthmuses as far as they are involved in mechanical origin are due to angulation, flexion of the ureter by adjacent structures, and consequent compromising of ureteral lumen—isthmuses. The proximal, middle, and distal isthmuses are practically constant structures, located adjacent to the distal kidney pole, to the iliac vessels (sacroiliac joint), and to the bladder wall, or external angle of the trigone. There are other irregular, inconstant ureteral constrictions in the lumbar, but especially in the pelvic, segment of the ureter. In operating for ureteral calculi which have lodged at the ureteral isthmuses an attempt should be made to force the calculus proximalward into the dilated ureteral spindles, where sufficient wall and lumen exist for manipulation. Also when the calculus is pushed into the ureteral spindles it may be fragmented by pressure, or a sharp needle may be introduced to fragment it.

The discussion whether the proximal or distal ureteral isthmus is the narrowest is difficult of final decision. All three ureteral isthmuses are variable in diameter. After the injection of about two hundred ureters I had concluded that the distal ureteral isthmuses in general are the most limited in lumen.

It appears to me that the distal orifice of the male ureter allows the catheter to enter with more facility than that of the female. It is more prominent, resembling that of the lower animals—*e.g.*, soliped (horse), ruminant (cow, sheep), carnivore (dog).

In woman frequently the distal orifice of the ureter is flat, non-conspicuous, no distinct groove leading proximalward to it, and hence allows the catheter to glide over its mouth.

(B) URETERAL DILATATIONS (RESERVOIR, SPINDLES—1, 2, 4, 6).

There are three ureteral dilatations, viz.: (I) proximal (calyces and pelvis—1 and 2); (II) the middle ureteral dilatation (lumbar spindle—4); (III) the distal ureteral dilatation (pelvis spindle—6). The ureteral dilatations of urinal reservoirs are due to the obstruction offered to the flow of urine through the ureteral isthmuses or constrictions. As a rule, ureteral dilatation is from obstruction at the ureteral isthmuses. It is the ureteral dilatations, spindles, or urinal reservoirs which dilate or expand in general dilatation, while the strong ureteral walled constricted ureteral isthmuses share to an extremely limited extent in the generally increased ureteral caliber.

I. *The Proximal Ureteral Dilatation (Calyces and Pelvis, 1 and 2).*—The proximal ureteral dilatation or urinal reser-

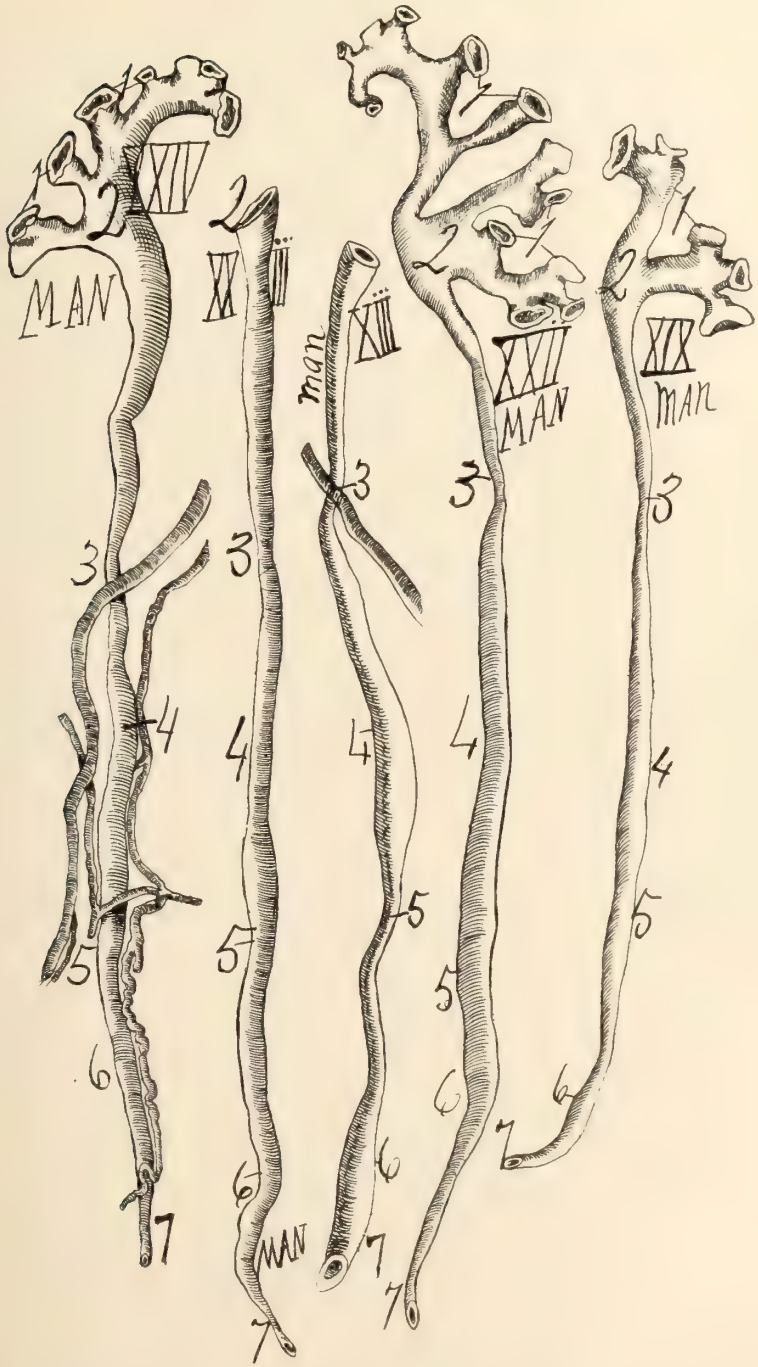


FIG. 2.—These five ureters were treated as in Fig. 1 and *x*-rayed. The above ureters present a wide range of ureteral calyces, pelves, isthmuses, and dilatations. The calyces vary more than any other ureteral segment. The calyces consist practically of a major proximal arm and a major distal arm. No. XXIV is accompanied by the injected spermatic vessels. The ureteral isthmuses are 3, 5, 7. The ureteral dilatations are 1 (calyces), 2 (pelvis), 4, 6.

voir consists of the ureteral calyces (1) and ureteral pelvis (2). This ureteral reservoir arises from the obstruction to the urine at the proximal ureteral isthmus (3), which rests on the flexion of the ureter by the distal renal pole. The proximal ureteral dilatation entertains over 50 per cent of ureteral calculi. Its capacity varies from 2 to 10 drachms. In general ureteral dilatation it shares extensively, while the thick-walled proximal ureteral isthmus is scarcely affected in caliber. The proximal ureteral dilatation is frequently found excessively dilated (in *post mortem* and *sectio vivo*), due to the facility of angulation or flexion of the ureter at the proximal ureteral isthmus. Two factors arise which aid in dilating the proximal ureteral dilatation, viz., (*a*) excessively mobile kidney (nephroptosia), especially when the kidney rotates dorsoventrally on its arteria renalis, compromising the caliber of the proximal isthmus; (*b*) excessively mobile kidney (nephroptosia), where the kidney moves distalward and the distal renal pole continually approaches the median body line, compromising the lumen of the proximal ureteral isthmus. The average number of calyces are eight. The ureteral calyces are located in the sinus renalis, while the ureteral pelvis is located in the hilus renalis. The proximal ureteral dilatation furnishes ample lumen and ureteral parietes for surgical intervention and manipulation. The ureteral calyces and pelvis should be explored by an incision through Hyrtl's exsanguinated renal zone—*i.e.*, by a proximodistal incision in the renal cortex one-half inch dorsal to the lateral longitudinal renal border. The proximal ureteral dilatation may present partial or complete duplicity with partial or complete ureteral duplicity. The proximal ureteral dilatation is well supplied by vessels from the arteria renalis.

II. *The Middle Ureteral Dilatation (Lumbar Spindle —4, 4a).*—The middle ureteral dilatation of urinal reservoirs (4) is a constant fusiform swelling in the lumbar ureter. Its existence is due to the resistance offered to the urinal stream at the middle ureteral isthmus as a consequence of flexion of the ureter at the iliac vessels from erect attitude. It may be one-half to one-fourth inch in diameter and from one to two inches in length. Its average diameter is one-third of an inch and average length two inches. The lumbar spindle is more pronounced in woman than in man, and larger on the right side. It is rarely double. The lumbar spindle is a heritage of the Wolffian body enhanced by the erect attitude. Its chief location is on the ventral surface of the psoas muscle. Though the lumbar spindle

is constant it varies in diameter, length, location, and number. Its capacity could entertain a calculus of large dimensions, allowing the urine to flow laterally. The lumbar spindle begins on an average of two and a half inches from the hilus renalis. It diminishes gradully cone-like proximalward, but bluntly or abruptly distalward. The blunt end of the spindle is distalward. The lumbar spindle is not marked in quadrupeds. The large lumbar ureteral spindle or dilatation offers excellent conditions for surgical intervention—ample lumen and parietes for manipulation. A calculus could be forced from the middle ureteral isthmus into the lumbar spindle for surgical manipulation. The lumbar ureteral dilatation or spindle is the most mobile segment of the ureter. Calculus may lodge and increase in the lumbar spindle. The lumbar spindle is supplied by the T-shaped artery emitted from the arteria ovarica (spermatica), aiding to maintain its dimensions.

III. *The Distal Pelvic Ureteral Dilatation (Pelvic Spindles, 6, 6a.).*—There is a single or multiple constant pelvic fusiform ureteral swelling. It is smaller and more irregular than the lumbar spindle. There may be one distal main ureteral spindle or reservoir. It is located between the pelvic brim and the wall of the bladder. It may be as much as one-fourth of an inch in diameter. Calculi can lodge and grow in it. The pelvic ureteral spindle appears to be generally broken into two, a smaller proximal and a larger distal one, perhaps due to the periureteral sheath, the vesical wall constriction, and other forces not yet clearly understood. The chief ureteral spindle is the distal one. It is the pelvic spindle which is supplied by the arteria ureterica distal emitted from its uterine artery.

It lies distal to the ureteral elbow or in the base of the ligamentum latum. I have noted three ureteral pelvic spindles in one subject. The pelvic spindle is perhaps due to obstructions offered to the ureteral stream in its passage through the constriction in the bladder wall. It may be enhanced by the resistance offered by the elbow of the ureter in the lesser pelvis, and from the more pronounced pelvic spindles in woman, to the arteria uterina distal which is emitted to the middle point of the main pelvic spindle.

The dimensions of the pelvic spindle or spindles are considerably less than those of the lumbar spindle or spindles. The diameter of the pelvic spindle may attain one-third of an inch, but is more liable to be about one-fourth of an inch or less. If one pelvic spindle exists its length may be one to one and one-half or two inches; if two exist they are about one inch each.

The pelvic ureteral spindle offers more ample lumen and wall for surgical interventions than the other pelvic segments. The distal pelvic ureteral spindle, the main pelvic spindle, which is directly supplied by the arteria ureterica, distal from the uterine, is of extreme importance in pelvic ureteral surgery, as its more ample wall and lumen provide means for surgical manipulations. Besides, the distal pelvic spindle is located at the point of general ureteral trauma during surgical intervention on the pelvic viscera, particularly in hysterectomy. Nearly all injuries to the pelvic ureter occur near the distal arterioureteral crossing —that is, in the distal pelvic ureteral spindle or in the ureter as it courses through the base of the ligamentum latum.

RHEUMATIC ENDOCARDITIS.

BY C. W. HANNAFORD, M.D., PORTSMOUTH, N. H.

Endocarditis occasionally occurs in the course of many constitutional diseases, but the most fertile cause of the affection is acute rheumatism. This disease is found in persons in all walks and conditions of life, and occurs at all ages, but is most frequent in adults between twenty and forty years of age. All classifications of this disease are unsatisfactory, unless we consider the disease from the clinical side, when it may be divided into acute, subacute, and chronic.

The clinical features and treatment of this affection, which are the points of most importance to the general practitioner, are best illustrated by citing a typical case:

Mr. T., aged twenty-one years; occupation, teamster. The family history was negative. Previous history and habits: Until the beginning of the present illness the patient always enjoyed good health. He has never had any venereal diseases or any of the so-called diseases of childhood, as scarlet fever, diphtheria, etc. He has used tobacco for several years in moderation, and occasionally drinks a glass or two of beer.

History of present illness: On March 17, 1903, the patient was exposed in a cold rain-storm, getting wet through, and remaining in the same clothes all day. The following night he was taken with a severe chill, and obliged to go to bed. When I first saw the patient the following morning the temperature was 103.4°; pulse 90, regular, and of good tension; the ankle- and knee-joints were red, swollen, and extremely painful; and

there was profuse sweating. Three days later the right wrist-, elbow-, and shoulder-joints became involved, and the right hand was also badly swollen and very painful. The heart sounds at this time were clear and distinct, and the urine was free from albumin. Under the free administration of salicylates and local applications to the inflamed joints, the pain and swelling gradually disappeared.

About two weeks after the disappearance of the joint symptoms the heart began to show marked signs of involvement, so that the least exertion, even sitting up in bed, caused alarming syncope. He has had no cough, his appetite has been fairly good, and he has slept well.

Physical examination at this time showed the patient fairly well nourished; there was a slight degree of anemia; the tongue was lightly coated; temperature 101.6°; respirations 24; pulse 96, easily compressible, of fair tension, and at times slightly irregular. The carotids showed marked pulsation, but no capillary pulse could be detected.

Heart: Inspection showed a marked heaving impulse over the lower precordia with each systole of the ventricle. Palpation failed to elicit a thrill; but the apex beat could be felt at the upper border of the sixth rib in the mammillary line.

Percussion showed the heart to be enlarged downward and to the left, as far as the nipple line, the apex being on a line with the upper border of the sixth rib. The right border of the heart was found to be about one-half inch beyond the right border of the sternum.

Auscultation: In the mitral area could be heard a loud blowing murmur, systolic in time, which was transmitted to the left axilla, and wholly obliterated the first sound, its area of maximum intensity being at the apex.

The aortic first sound was slightly roughened, and the pulmonic second sound was slightly accentuated. Owing to the poor condition of the patient I did not examine the chest posteriorly.

The treatment at this time consisted of rest in bed in the recumbent position; light nutritious diet, principally milk and eggs; medicinal treatment, a solution of magnesium sulphate when necessary to insure free action of bowels; 1/40 grain strychnine sulphate four times daily; and an occasional dose of trional.

From the above symptoms it was of course plainly evident that the patient was suffering from mitral regurgitation, due to

endocarditis. The murmur of mitral regurgitation is occasionally heard all over the precordia, and its maximum intensity is usually at the apex, but it may be at the pulmonic cartilage; it is transmitted to the left axilla and may be heard at the angle of the left scapula. It also varies a great deal with the position of the patient. A systolic murmur is sometimes heard at the apex, associated with anemia or neuroses of the heart, but in these conditions there is no enlargement of the organ, and its area of maximum intensity is usually at the base.

The systolic murmur of aortic stenosis is sometimes heard at the apex, and may be transmitted to the left axilla, but its area of maximum intensity is over the aortic cartilage; this murmur is also heard in the large vessels of the neck. There is usually a thrill present, the pulse is well sustained, regular, and may be slower than normal, and general arterial disease is more often present than in mitral lesions.

Etiology and Pathology of Rheumatic Endocarditis.—During the past few years much has been written in regard to the etiology of acute rheumatism. Many elaborate experiments have been performed by competent observers, both in this country and abroad, to show that the disease is due to a specific form of bacteria. Several pathologists have isolated a micrococcus from the blood, joints, and other parts of the body of persons suffering from acute rheumatism, which when injected into susceptible animals has produced arthritis, and in many cases endocarditis; but to my mind one of the most convincing arguments in favor of the germ theory of this disease is the striking resemblance between an attack of acute rheumatism and that of acute septicemia, which we know to be due to a specific agent.

Pathologically speaking, we may divide endocarditis into a simple and malignant form, but clinically this is often a difficult problem, for a case which at first appears to be of the simple variety may in a few days assume the malignant type, and *vice versa;* but fortunately most cases of rheumatic endocarditis are of the simple variety.

The mitral segments are most frequently involved; the pathological changes in simple endocarditis begin as an infiltration of round cells, and a deposit of leucocytes and fibrin from the blood; this deposit finally undergoes disintegration and is replaced by connective tissue; upon this connective tissue growth, entangled in fibrin, bacteria are often found. These so-called vegetations may become organized, or they may be broken off and carried to distant parts of the body, or the process

may extend and become an ulcerative endocarditis; the latter process, however, is very rare in the simple endocarditis of rheumatism.

The prognosis in any case of valvular disease depends not upon the murmur, but on the amount of dilatation or hypertrophy and the ability to restore compensation. In certain cases when compensation has failed, we get a diminution in the intensity of the murmur; this, of course, is an unfavorable symptom, showing that the heart muscle is becoming affected, and is unable to force the blood through the valves with such great force. The prognosis with regard to the different valves which may be affected is difficult to estimate; mitral insufficiency, when well compensated, may go on for many years, provided the patient is moderate in his habits of living. Complete recovery is possible only when the lesions are very slight. The age of the patient, his habits and social position, occupation, the presence or absence of constitutional diseases, must all be taken into account.

In the above case compensation was restored at the end of eight weeks, so that the patient was able to be about and do light work.

In mitral lesions the compensatory changes often develop gradually as the lesion progresses, and the patient may have a marked degree of hypertrophy without being aware of any heart trouble, but sooner or later, when compensation has been disturbed, symptoms of venous engorgement take place; there is dyspnea, and cough; the pulmonary vessels are congested, owing to a backing up of the blood from the left auricle, through the pulmonary veins; later the right auricle may hypertrophy, owing to its effort to force the blood through the engorged lungs, and the tricuspid valve becomes insufficient. This may be followed by congestion of the liver, with gastric and intestinal irritations. Dropsical effusions may take place, first in the lower extremities, and extend upward to the serous sacs.

Treatment of Valvular Lesions.—The treatment of rheumatic endocarditis differs in nowise from the treatment of this condition from other causes. It was at one time supposed that the salicylates had a specific action on these cases of endocarditis, but this fact is not borne out by clinical experience. So long as compensation is good, no treatment is necessary; but the patient should be cautioned to live a quiet, moderate life, avoid the use of alcohol and tobacco, and all excitement and worry, as much as possible. The bowels should be kept regular by the use of laxatives, if necessary; the skin and kidneys must be kept active,

the former by proper bathing, the latter by the use of plenty of pure water and milk.

Very hot baths or Turkish baths should not be allowed. Exercise in the open air is of prime importance, and should be taken regularly—walking, horseback riding, and even bicycling on level ground may be allowed. If the patient is one who must earn a living, an occupation should be chosen which will not throw too much work on the heart.

Broken compensation is indicated by irregularity of the heart's action, attacks of dyspnea, cough, cyanosis, and dropsy, usually beginning in the lower extremities. Complete rest in bed, with the administration of a saline purgative, and a restricted, nutritious diet are in some cases sufficient to restore compensation.

If anemia is marked, iron and arsenic are very useful. For cases of marked venous engorgement, some authors recommend venesection in the early stages.

Dropsical effusions are best treated by saline laxatives given in large doses in the morning. Scarification of the extremities may be tried, but should be done under strict antiseptic precautions; bandaging the legs with flannel is often of service. Digitalis, strophanthus, squills, citrate and acetate of potassium are all useful at times in this condition.

Of the so-called heart stimulants, digitalis, strychnine, strophanthus, nitroglycerin, convallaria, caffeine, and many others are of service in certain cases; of these, digitalis is probably the most useful. The indications for its use are broken compensation, with small, thready, irregular pulse of low tension, and cardiac dropsy; it increases the tension of the peripheral arteries, and maintains an equable flow of blood. Under its use the amount of urine is greatly increased, and dyspnea and dropsical effusions rapidly disappear.

The Danish government has, we learn from a foreign exchange, issued a stamp bearing the head of the late Professor Finsen with the object of placing within reach of the poorer classes a means of subscribing to the national monument by which it is proposed to commemorate the work of the Danish investigator. On the occasion of the Christmas and New Year's holidays the Danish postmaster-general also issued four million illustrated post-cards. The profits on the sale of these post-cards are to form the basis of a fund for the erection of a sanatorium for indigent consumptives.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE PNEUMONIA PROBLEM.

It is hoped that much will result in a practical way from the work of the commission which has been appointed by the city of New York to investigate the pneumonia problem. The commission consists of able clinicians and pathologists, and they should have little difficulty in making recommendations which will have great influence in benefiting the public health.

The alarming increase of pneumonia in recent years has aroused interest in the question, "Is the disease contagious?" There have been several cases recorded in medical literature which would tend to show that pneumonia has been transmitted by methods which might be preventable, but that there is any contagious element seems doubtful. The pneumococcus is a ubiquitous organism, and its diffusion cannot be prevented by isolation or its virulence modified by fumigation. How futile is the attempt to avoid exposure to the pneumococcus is shown by the work of Durck, who has demonstrated that the organism is frequently present not only in the nose and pharynx of people who never had pneumonia, but also in their lungs. Frankel says "the development of a pneumonia requires in the majority of cases some contributory cause. The pneumococcus is the true cause of croupous pneumonia, but it excites the disease only when its virulence is so great that it can penetrate the natural defenses."

From the statistical standpoint many well known facts have received new confirmation, and some new facts have been elicited in the report of the pneumonia cases in the Montreal General Hospital. Of these cases 23 per cent entered the hospital in February and March, 31 per cent during April and May, a decided preference being exhibited for the opening spring

months. Seventy-one per cent of the cases were males. The mortality-rate was 21 per cent. Seventy-one per cent were indoor workers, not perhaps an undue proportion. The average length of time in 351 cases was twenty-seven days from entrance to discharge. Sixty per cent ended by crisis, 28 per cent by lysis, and 12 per cent were atypical. The temperature in 52 per cent ranged from 102° to 104°.

The relation of pneumonia to herpes has been much commented on in recent literature. The result of this is largely to disprove any constant relation existing between herpes and the outcome or probable duration of the disease.

EDITORIAL NOTES.

The Influence of Different Foods.

That environment has a distinct influence on an individual is a well known fact. A French savant has recently finished an extended series of experiments to determine what influence different foods have upon temperament. From his observations he concludes that pork used excessively will have a tendency to make the user pessimistic, while on the other hand a diet which consists mainly of beef, if persisted in, will make the user strong, energetic, and audacious. Mutton makes for melancholy. The continual use of veal depletes one's energy and gaiety. The free use of eggs and milk is conducive to health and vivacity, especially in women. Butter used too freely induces laziness. This authority claims that apples are excellent for brain workers, and recommends those following intellectual pursuits to use them freely. Potatoes will, he claims, make persons dull and inactive. If these observations be correct, it would seem a simple matter to become all that is desirable, and that without any hardship.

The Exchanging of Professors.

The plan which Harvard University is projecting of exchanging, for a limited time, professors with the universities of Paris and Berlin is one that has much to commend it. The idea is not a new one, for in the past men who have been recognized as authorities upon a given subject have been frequently invited to give lectures in other countries besides their own. This has obtained in medicine perhaps more than in the other sciences.

Eminent teachers have been invited many times by universities or medical societies to give an occasional lecture on subjects in which they have become unusually proficient. This method of exchange would afford many students who have not the means for study in foreign universities an opportunity for profiting by the teachings of the world's greatest teachers. A friendly feeling would also be engendered between nations, and the public would feel the benefit on account of the attention brought by the presence of a distinguished professor from abroad.

Consent of Patient Necessary for the Performance of a Major Operation.

A decision was recently handed down by the Supreme Court of Illinois that will be of interest to every surgeon. The court affirmed the decision of a lower court allowing damages amounting to $3000 to a woman who charged that a surgeon had operated upon her without her consent. After the operation, it was claimed, the plaintiff's condition became critical, and she is now a patient in Kankakee Insane Asylum. The decision of the court was that any surgeon who performs a major surgical operation without the consent of the patient is liable to damages. The consent of the nearest relative does not relieve the surgeon of the liability. If such a precedent is established in other States, it can only work for harm, for many life-saving operations have to be performed at times when the patient is in no condition to decide.

The Danger of Publishing Scientific Facts.

We have never been aware that any danger lurked in stating a scientific fact. This, however, seems to be the case at least in France, where, according to a Parisian exchange, a widow some time ago brought suit against the author of a graduation thesis entitled "De l'impregnation de la mere." The thesis dealt with the subject of indirect atavism. The fiancé of the widow on reading the essay became alarmed when he read that his progeny might inherit the habits of life of the widow's first husband. For this reason he called the marriage off, and the widow instituted her suit for damages against the innocent medical man. Should she be successful we doubt if the amount of damages awarded will be great enough to financially cripple the writer of the thesis.

The Prevention of Seasickness by Hypnotic Suggestion.

At a recent meeting of the Paris Society of Hypnology and Psychology the subject of treating seasickness by hypnotic suggestion brought forth a very interesting discussion. One speaker cited his own case, and told the meeting that on four voyages from England to America he had by suggestion prevented seasickness. He said that he had been entirely free from nausea and had enjoyed a fine appetite throughout the voyages. The suggestion was made by another member that persons liable to seasickness who were never sure of finding a medical man on board could practice hypnotism, and should undergo suggestion before embarking. He also claimed that by hypnotic suggestion he had in numerous instances prevented carriage and train sickness. Doubtless those who have had experience with seasickness will be willing to try this method of preventing so distressing a malady.

A Vote Against Quackery.

That the public is not so simple and easily fooled as the quacks would have us believe was recently shown in Switzerland, where a determined effort was made to get that form of quackery known as "nature healing" legalized. The Canton of Zurich was flooded with literature urging free trade in medicine. When the matter was brought up at the recent elections the project to make this "nature healing" legal was defeated by a majority of 28,438 out of a total of 51,319 votes. This certainly speaks well for the intelligence of the voters of the Canton of Zurich.

Proprietary Medicine in New Zealand.

New Zealand, which seems to be suffering from the patent medicine vender about as badly as we are in this country, has recently passed a bill which was brought before that country's parliament which makes it compulsory for the manufacturers of patent medicines sold in New Zealand to make public the composition of each. A similar law in this country would be a great public benefit. However, such will probably never be passed on account of the opposition it would meet from newspapers, who derive such princely sums from the advertisements of patent medicines.

ITEMS AND NOTES.

THERE are said to be over 2500 cases of la grippe in Springfield, Ohio.

THE mortality in the jails of British India has been reduced in twenty years from 37 per 100 to 21 per 1000.

THE American Antituberculosis League will hold the next meeting on April 17 to 19, 1905, at Atlanta, Ga.

THE Prussian Academy of Sciences has presented the Helmholtz medal this year to Ramon Cajal, of Madrid.

THE fourth congress of the German Association of Orthopedic Surgery will open its proceedings April 25, 1905, in Breslau.

THE Berlin Roentgen Society has arranged for a congress April 30 to May 3, 1905, in commemoration of the decennial of Roentgen's discovery.

DR. ANITA NEWCOMB MCGEE has been made a member of the United Spanish War Veterans, and is the only woman holding membership in that organization.

DR. CHANG A. HOLT, of San Francisco, has just passed the Board of Examiners. He is a full-blooded Celestial, born in Canton twenty-six years ago, and studied in San Francisco.

DR. LICEAGA, president of the Superior Board of Health, states that as a result of the sanitary campaign initiated by the Mexican government against yellow fever, there is not now a single case in the country.

THE essay on "The Biology of the Microörganism of Actinomycosis," written by Dr. James Homer Wright, of Boston, Mass., captured the Samuel D. Gross prize for the Academy of Surgery for the year 1905.

A FIRST-AID MAGAZINE will soon be established in Chicago, to be issued monthly as the organ of the American White Cross First-aid Society. Among the members of the editorial staff are Drs. Frank Billings, Nicholas Senn, Geo. W. Webster, John B. Murphy, J. B. Herrick, John Ridlon, N. S. Davis, Chas. Adams, Henry B. Favill, and William E. Quine.

The seventh session of the Australasian Medical Congress will be held in Adelaide, South Australia, during the week September 4 to 9, 1905, under the presidency of Dr. E. C. Stirling. There will be seven sections, viz., Medicine, Surgery, Gynecology, and Obstetrics; Eye, Ear, and Throat; Pathology; Pharmacology; Public Health; State Medicine; and Medical Ethics.

The Cuban Congress has passed a bill appropriating a sum of $135,000 for the immediate sanitation of the cities of the island. The Special Committee of the Senate on Sanitation recommended measures granting all municipalities $2.16 2/3 per inhabitant for city cleansing and sanitation, with an additional 10 or 20 per cent for the larger towns, according to population and importance. The appropriation bill was passed by the House by a vote of 23 to 15, and the recommendation of the Senate Committee for a grant to the several cities was informally approved.

The following foreign physiologists have been elected honorary members of the American Physiological Society: Th. W. Engelmann, professor of physiology in the University of Berlin; A. Dastre, professor of physiology at the Sorbonne, Paris; J. N. Langley, professor of physiology, Cambridge University; C. S. Sherrington, professor physiology, University of Liverpool; Fr. Hofmeister, professor of physiological chemistry at the University of Strasburg; J. P. Pawlow, director of the Physiological Laboratory at the Imperial Institute for Experimental Medicine, St. Petersburg.

Madame Robineau, who lately entered on her 105th year, is said to be living in perfect health in the quarter of the Etoile, Paris. She was recently visited by Professor Metchnikoff, in reply to whom she said she had no secret; she lived in the ordinary way, and had never thought of adopting any special diet, not even the "sour milk," which the Russian scientists look upon as the elixir of life. We also gather that the old lady has contrived to overpass her century of years without parting with her colon. The most recent municipal statistics, coming down to the end of 1904, show that there are now in Paris two men and three women more than 100 years old. There are no fewer than 530 over 95.

Says an exchange: German army officers are henceforth to be allowed to drink to the health of the Kaiser, or anybody or anything else, in plain water instead of beer or Schaumwein.

This permission was given in answer to a request by Dr. Adolph Banzer, of Munich, a member of the Society Against the Misuse of Spirituous Liquors, asking whether officers might drink toasts in water. The Prussian minister of war says that the emperor has replied to the inquiry to the effect that "no compulsion exists to partake of toasts in alcoholic drinks, and that it may be left to the movement now in progress to advance this idea in all circles."

An exchange says that on October 21, 1854, Florence Nightingale left London with a band of thirty-eight nurses for service in the Crimean war, and now in recognizing the jubilee of that event Sarah A. Tooley has written a life of the illustrious heroine (Macmillan's). The book opens with the story of the dinner given to the military and naval officers who had served in the Crimean war, when it was suggested that each guest should write on a slip of paper the name of the person whose services during the campaign would be longest remembered, and every paper bore the name of Florence Nightingale. Besides the record of her life, the volume gives some account of her books—her "Notes on Nursing" in particular, of which more than 100,000 copies have been sold.

Investigation conducted by Daniel P. MacMillan, supervisor of the truant department in Chicago, during several years prove, says an exchange, that many of the boys run away from school because they are discouraged on account of their inability to keep pace with their classmates. He declares further that the reason a majority of these truants cannot keep up with their classes is that they cannot see well or hear well. Nearly all of the bad boys brought to the department for examination have sensory defects. Supervisor MacMillan declares that before any great improvement can be made by the child these sensory defects must be remedied. Therefore, as a first step in curing boys of truancy and delinquency, he will urge their parents to take them to a surgeon and submit to an operation on the affected eye, ear, or throat.

The Vienna Veterinary Institute has just opened a laboratory for the examination of diseased fish. The new department has at its head Professor Fiebinger, who will also lecture on the subject. Breeders have already sent to the laboratory fish suffering from smallpox, enteritis, and other quite human ills, in addition to specific piscine diseases like crayfish plague. An

endeavor has been made to transplant the diseases named from fish to man, and *vice versa,* but hitherto with only partial success in the case of tuberculosis. Professor Fiebinger frequently had excellent results by recommending to breeders the draining of waters and removing from the soil what was considered to be the germs of the disease. The institution of a laboratory where expert investigation can be brought to bear on piscicultural questions has, therefore, been highly welcomed.

THE following is the text of an act recently passed by the General Assembly of the State of Vermont: "The State Board of Health and the Superintendent of Education shall prepare or cause to be prepared suitable test cards, blanks, record books, and other needful appliances to be used in testing the sight and hearing of pupils in public schools and necessary instructions for their use; and the Superintendent of Education shall furnish the same, free of expense, to every school in the State. The superintendent, principal, or teacher in every school during the months of September in each year shall test the sight and hearing of all pupils under his charge and keep a record of such examinations according to the instructions furnished; and shall notify in writing the parent or guardian of every pupil who shall be found to have any defect of vision or hearing or disease of eyes or ears, with a brief statement of such defect or disease; and shall make written report of all such examinations to the Superintendent of Education as he may require."

THE second meeting of the French Congress of Climatotherapy and Urban Hygiene will be held at Arcachon, in the Department of the Gironde, France, April 24 to 28, 1905, under the presidency of Professor Renaut, of Lyons. The vice-presidents are Professor Calmette, of Lille; Professor Grasset, of Montpellier; Dr. Balestre, professor agrége at Montpellier; Professor Pitres, dean of the Medical Faculty of Bordeaux; and Dr. Lalesque, of Arcachon. It will close at Pau on April 29. The railroad companies will grant members of the Congress a reduction of 50 per cent, available for Arcachon, Biarritz, and Pau, during the last fortnight of April. Wives and children of members traveling with them may benefit by the reduction. Excursions will be made on the bay and in the forest of Arcachon, as well as to the Béarn and Basque countries. A copy of the programme will be forwarded to each member at least ten days before the opening of the Congress, to enable all who intend to take part in the discussions to prepare themselves. Members

who wish to make communications to the Congress are requested to send the title and a brief summary before March 20 to the general secretary, Dr. A. Festal, Villa David, Arcachon, who will supply any further information that may be required. The general treasurer is Dr. Dechamp, Villa Tibur, Arcachon.

ACCORDING to official returns the total number of matriculated students of medicine in the universities of Switzerland during the summer semester of 1904 was 1724. Of these 958, considerably over half, were women, all but 27 of whom were foreign-born. Of the male students 214 were foreigners. The students were distributed in the several universities as follows: Basle 129, of whom 113 were Swiss and 16 foreign (6 of the number were women, 15 Swiss and 1 foreigner); Berne 594, of whom 133 were Swiss and 461 foreign (of the female students 2 were Swiss and 405 foreign); Geneva 288, of whom 82 were Swiss and 206 foreign (the number of female students was 144, of whom 3 were Swiss); Lausanne 326, of whom 74 were Swiss (the female students numbered 223, of whom 2 were Swiss); Zurich 387, of whom 177 were Swiss (there were 178 women, of whom 15 were Swiss). In addition to the matriculated students there were some entered for special courses. These were distributed as follows: Berne 12, of whom 4 were women; Geneva 29, of whom 2 were women; Lausanne 2, of whom 1 was a woman; Zurich 15, of whom 12 were women.

AT present there is in Glasgow one Captain Vetrio, who styles himself the "poison-proof man," giving exhibitions in one of the places of entertainment of his ability to swallow lethal doses of certain poisons, such as strychnine, phosphorus, and so on, with apparent impunity. With these we are told he varies his menu by eating glass and flower-pots. Before he made his first public appearance a number of medical men responded to his invitation to meet him in the Windsor Hotel, where he swallowed half a grain of strychnine in their presence, and also, we are told, partook in quick succession of considerable doses of Paris green, indigo blue, verdigris, and so on without evil effects. This demonstration, we are further told, concluded by Captain Vetrio eating a considerable portion of a stick of phosphorus. He invited medical men to bring their own poisons. A letter appeared in the *Glasgow Herald* pointing out the responsibility resting with any medical man, from a medicolegal standpoint, who should, in the event of this man's death, have supplied him with the poison.—*Medical Press.*

NEW PUBLICATIONS.

PRACTICAL PEDIATRICS.

This is a reference book which rises to the rank of a miniature encyclopedia of the diseases of childhood, presenting a valuable amount of data in clinical, pathological, and bacteriological matters. The scheme of the book is admirable. The author is the editor of the *Centralblatt für Kinderheilkunde,* and is an authority whereof he speaks. The alphabetical arrangement makes the work one which the student and practitioner can use with quickness and despatch.

Practical Pediatrics. A Manual of the Medical and Surgical Diseases of Infancy and Childhood. By Dr. E. Graetzner. Authorized translation by Herman B. Sheffield, M.D. F. A. Davis Company, Philadelphia.

ANATOMY OF THE HUMAN TEETH.

The naked-eye anatomy of the teeth has been admirably demonstrated by the author of this book. The photographs and illustrations have been prepared with evident care, and the volume is one which will particularly appeal to the dentist.

The Naked-eye Anatomy of the Human Teeth. By Thos. E. Constant. John Wright & Co., Bristol, England.

LIFE INSURANCE EXAMINATIONS.

This is an excellent little manual for the life insurance examiner. It is full of varied information and abounds in practical points. Every life examiner should have one.

Life Insurance Examinations. A Manual for the Medical Examiner and all Interested in Life Insurance. By Brandreth Symonds, A.M., M.D. G. P. Putnam Sons, New York.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

A Report of Eighty-four Operations on the Kidney and Ureter.

G. E. Brewer's (*Medical Record,* Feb. 18, 1905) list comprises 27 nephrectomies, the same number of nephrotomies, 9 nephrorrhaphies, 10 decapsulations, 5 operations on the pelvic portion of the ureter, and 6 emergency operations on traumatic cases. These classes are discussed in detail, and the diagnosis of renal calculus is treated at considerable length. From a review of the conditions present in his cases the author feels justified in stating that there is no single symptom nor sign, nor any group of symptoms or signs, that is absolutely pathognomonic of renal or ureteral calculus, unless the calculus lies in the lower ureter and can be touched by a metal bougie or catheter. The most important factors to be considered are pain, tenderness, hematuria, the results of radiography, cystoscopy, and ureteral catheterization. While vomiting, vesical irritability, pyuric fever, and the presence or absence of a renal tumor are important and will often help us to confirm or lead us to exclude other pathologic conditions, too much reliance must not be placed upon them in the diagnosis of calculus. While pain and tenderness were present in practically 100 per cent of the author's cases of stone, they were also present in a large percentage of the cases in which no stone was found, and calculus may, and often does, exist without pain. Hematuria was known to be present in 52 per cent of the author's stone cases, but it was also present in 45 per cent of the cases without stone. Spontaneous hemorrhage occurring during rest and sleep generally means new growth. Hemorrhage following active exercise or jolting and accompanied by characteristic colic, in the absence of other demonstrable pathologic conditions, is strongly suggestive of calculus. Excluding imperfect plates and those in which the edges of the shadow were not distinctly defined, the Roentgen ray gave accurate indications in 95 per cent of the cases, and must therefore be regarded as the most reliable means of examination which we possess. Cystoscopy helped to a correct diagnosis in

66 2/3 per cent of the cases examined, while it was misleading in 33 1/3 per cent. Ureteral catheterization proved valuable in confirming the diagnosis, in definitely determining the site of the lesion, and in estimating the competence of the opposite kidney.

The Advantages of Performing Capital Operations in Selected Cases Without Anesthesia.

J. J. Buchanan (*Medical Record,* Feb. 25, 1905) discusses the question of operating in certain cases without anesthesia. The writer says that there should be a good and apparent reason for withholding the anesthetic. The consent and coöperation of the patient must be secured. With proper presentation of the matter, this can almost always be accomplished. Even little children, foreigners who must be approached through an interpreter, and delirious patients are amenable to the necessary arguments in many instances.

No restraint whatever should be employed except in the case of children who have not yet reached the age of reason.

There should always be given the promise of an anesthetic in case pain should prove unendurable. Fulfilment of this promise is rarely necessary. An occasional rest, at the request of the patient, during a prolonged operation is always advisable.

A full understanding of the nature of the operation should be had with adult patients, and information from time to time as to the progress of the operation has a marked effect in promoting their endurance.

A word of warning to the patient, when painful parts of the operation are coming, such as the primary incision, cutting the parietal peritoneum, and the section of nerve trunks, will be advantageous.

As a rule it is well to screen the field of operation from the patient's view.

On Paget's Disease.

After a short review of the literature, especially that of cases of Paget's disease elsewhere than on the breast, Jungman and Pollitzer (*British Journal of Dermatology,* February, 1905) proceeded to detail their own case. The patient was a woman aged forty-six years, whose mother had died of carcinoma at the age of seventy-three years. The disease began in the left axilla as a small, red, lentil-sized, discharging patch. In a year's time

it had reached the size of a florin, and had continued to spread, until in four years' time it was as large as the palm of a child's hand. Up to this moment it had always been diagnosed as eczema, and it was then that the patient came under the care of the authors. It was then excised, with no success, but continued to spread, and a few months later the patient began to notice the presence of a tumor in the axilla. The patient's general health began to give way greatly at this time, and the loss of weight was considerable. She was then treated by means of the *x*-rays and radium, and was demonstrated later in the Society of Physicians, with considerable improvement. In fact, with the exception of a narrow band the whole of the skin lesion had healed, and the deeper trouble was showing progressive resolution. There is a detailed histological examination differing in no particular from that usually seen in such cases, and there are very successful drawings of the clinical and microscopical condition.

For those wishing the literature of what may be called ectopic Paget's disease the article will be of value.

Operative Treatment of Birth Fracture of the Skull.

A. Nicoll (*British Medical Journal,* Feb. 4, 1905) asserts that the statement made by a number of authors to the effect that in the majority of cases depressed green-stick fracture of the skull in infants rectifies itself if left alone lacks substantiation. In regard to the so-called parturition cases in which the depressed fracture has been caused by compression of the cranium against the maternal pelvis during delivery, although indentation of a slight degree may spontaneously disappear within a day or two of birth, in the more marked instances, such as spontaneous obliteration, this must be regarded as problematical. The author holds that in cases of green-stick depressed fracture of the skull in infants and children, which was not remedied when the injury was recent and the bone soft, operation is justifiable, even if only for the correction of deformity. The following are the successive steps of an operation which he has performed in ten cases with good results and without a death: The depressed area, having been exposed by reflecting a single or a double flap, including scalp and periosteum, is removed by a large trephine; the detached disk of bone is inverted on a sterile swab or towel, and by thumb pressure the bend is reduced until the form of the fragment corresponds with the natural curve of the

skull; the fragment, still inverted, is replaced on the dura, and is covered by the scalp. The rate of union of the inverted bone is rapid, and in all ten cases bony connection, so far as could be made out by palpation, was firm at the end of the first week.

Excision of the Elbow-joint from Traumatic and Inflammatory Arthritic Ankylosis.

B. Merrill Ricketts (*American Journal of Surgery and Gynecology,* February, 1905) says that excision of the elbow-joint for ankylosis due to any cause, at any age, is a most rational procedure. If possible it should be done before or at the time ankylosis is complete. A posterior median incision is the most practical. With care the operation can be done without injury to blood-vessels or nerves. Drainage should always be provided for. The arm should be placed upon a right-angled splint. Results are better when only the articulating surfaces are removed. If there is complete bony union of the articulating surfaces, much more bony tissue must be sacrificed because disarticulation cannot be accomplished. All soft structures cut transversely will unite, but new insertions are formed which destroy their function. All attachments of tendons and muscles should be preserved. All periosteum should be preserved. If excision of the joint is complete, leaving only the ends of the shaft, flail joint can be prevented by approximating their ends with kangaroo tendon at time of primary operation. Wire or nail may be used, but their removal sooner or later will be imperative. Flail joint rarely results from any form of excision, but is more likely to be found following excision of the entire joint. If flail joint results, a mechanical device may be employed. Injections of alcohol or one or more of the various astringents will increase fibrous tissue, both in quantity and density.

Treatment of Wounds of the Liver.

T. Tilton (*Annals of Surgery,* Jan. 3, 1905) has collected the cases of uncomplicated wounds of the liver that have been treated in the hospitals of New York within the last ten years. These are 25 in number, and are divided as follows: Rupture, 12; gunshot wounds, 9; stab wounds, 4. Death occurred in 11 cases, a mortality of 44 per cent. Laparotomy was performed without delay in 20 of these cases, with a mortality of 40 per cent. The author points out that in the modern treatment of

injuries of the liver the tendency is toward early laparotomy. It is stated that the prognosis of the severer cases of wounds of the liver alone has improved of late years as a result of early operative treatment. Many cases must of course be promptly fatal from shock or hemorrhage, or from associated injuries of other organs. Many others can be saved by operation which would otherwise die from hemorrhage or some complication. The treatment of all open injuries should be early laparotomy for the purpose of hemostasis through examination and prevention of infection. As regards subcutaneous ruptures the mild cases without marked symptoms of collapse or internal hemorrhage should be treated expectantly. Cases in which there are marked collapse or signs, local or general, of internal bleeding should be treated by early laparotomy with suture or packing of the wounded liver.

The Effect of Tubal Abscess upon the Position of the Ureter.

E. B. Young (*Boston Medical and Surgical Journal,* Feb. 16, 1905) says that small collections of pus in the Fallopian tubes do not displace the ureters. That larger collections displace the ureters: (*a*) outward generally, whether the ureter is above or below the mass; (*b*) downward rarely on to the posterior cul-de-sac. That such displacements are probably due to traction upon the infiltrated broad ligaments by the distended tubes: (*a*) the ureter moving with the broad ligament; (*b*) direct pressure from the growing abscess forcing the ureter in the direction of least resistance; (*c*) a combination of both. Previous to the investigation of this subject the operation of vaginal section has seemed a somewhat haphazard procedure, but in the light of what has been found our lack of accidents seems quite fully explained.

Choice of a General Anesthetic and Selection of Methods of Administration.

V. C. Pedersen (*Medical Record,* Feb. 18, 1905) discusses the question of general anesthesia, both in respect to the qualities of the several agents and anesthetic sequences used, and in regard to the method best suited for various types of cases. In the selection of anesthetics for routine use it is recognized that nitrous oxide is the safest known anesthetic, especially when

administered with oxygen. Ethyl chloride promises rivalry in this connection, but its employment is too recent to warrant a fixed statement at the present time. Ether is the next safest, and perhaps when the length and severity of ether operations are compared with that of operations suitable for the preceding two agents, ether is the safest of all. Ether has many advantages over chloroform, and is five times safer. The various mixtures of chloroform and ether, in point of safety, occupy a middle place between the two drugs themselves, the relative danger being greater the higher the percentage of chloroform. The conditions covering the selection of anesthetics for particular patients are discussed under eleven heads so concisely as not to permit of abstract.

The Abuse of Purgation Before and After Operation.

I. S. Stone (*American Medicine,* Feb. 25, 1905) says that excessive purgation should be restricted because it is enervating to the general system. It produces great irritation of the mucous lining of the bowel. It may add to some of the dangers we are most anxious to avoid—ileus and paresis. Purgatives have very little effect in limiting the amount of extraperitoneal exudate and fluids. Instead of calomel and saline purgation, bland evacuants such as castor oil should be used before abdominal section. The use of suitable bland non-fermentative foods is desirable until just before operation in weak patients. After operation limit peristalsis; give only small quantities of food and drink by mouth; rarely give opium. Enemas should be administered to relieve distention and cause peristalsis in downward direction. After normal peristalsis laxatives should be given as required.

Typhoid Coxitis.

John L. Porter (*American Medicine,* Feb. 11, 1905) briefly reviews the literature and reports a case of typhoid infection of both hips in a boy of ten. The points of interest in the case are: (1) Both hips were involved; (2) infection occurred with acute symptoms during convalescence; (3) one joint which broke open and discharged recovered with almost normal motion and no destruction, while the one that did not rupture underwent extensive destruction and spontaneous dislocation with extreme flexion deformity. The dislocated joint was reduced by

tenotomy and forcible correction, resulting in shortening of one inch, fair mobility in all directions except flexion, a good standing position, and the ability to walk and run without support.

MEDICINE.

Critical Review of the Theories as to Sudden and Gradual Weaning.

G. Guidi's (*Archives of Pediatrics,* February, 1905) article is devoted to the refutation of the arguments of de Rothschild, who in a recent lecture advocated the progressive method of weaning infants by gradually substituting sterilized milk for mother's milk. Guidi argues that it is far better to get the infant gradually accustomed to other forms of food (cereals, etc.), and after a time to stop the mother's milk. This stopping of the mother's milk may then be done suddenly, in one day, without the child being injured by the change. He begins to accustom infants at the age of six months to farinaceous food with milk; later, at the eighth month, to the yolks of eggs, etc. This feeding should constitute not a substitute but an adjunct to mother's milk. The extraneous food is increased or decreased in quantity according to the quality and quantity of the mother's milk and the appetite of the child. When the mother's milk is lacking in some way, breast-feeding should be alternated and supplemented with feeding with sterilized milk, but the sterilized milk should be given at the same feeding with the mother's milk, in order that the natural ferments of mother's milk may mix with the artificial elements of cow's milk. After the sixth month the infant should be gradually accustomed to eating from a spoon, and the nursing bottle should be abandoned as soon as possible. At thirteen or fourteen months the mother's milk should be suddenly abandoned, and the child should be fed henceforth on the semisolid food to which he has grown accustomed. Weaning earlier than this is not indicated, provided the mother has enough milk for breast-feeding, combined, after the sixth month, with other foods mentioned.

The Treatment of Fat Embolism of the Lungs.

F. G. Connell (*Journal of the American Medical Association,* Feb. 25, 1905) says that the treatment of fat embolism is most unsatisfactory; in fact it may be said there is no treatment.

Prophylactic treatment should be instituted immediately after the injury has been received, and will consist of careful handling of the limb, so as to do as little additional injury to the fat cells as possible. All of this is demanded by nature, because of the pain that results when these precautions are not carried out. But when the patient is unconscious and no pain is felt, the same care should be exercised in moving or manipulating the limb. The proper approximation of the fragments and their immobility are, perhaps, the only effort that can be made to prevent the occurrence of fat embolism.

Many theories have been advanced as to the proper line of treatment, but unfortunately none are of great practical value. If a closed wound, drainage should be established in the hope of relieving the tension and so preventing the further absorption of the fat. The proximal ligation of the veins and even phlebotomy have been recommended, with about the same object in view.

Attempts have been made to emulsify the fat in the blood by the injection of a weak solution of sodium bicarbonate. Normal salt solution has been injected with the object of diluting the blood, and ether has been injected for the purpose of absorbing the fat. Oxygen is most certainly indicated for the carbonic acid poisoning. As the chief part of the fat is eliminated by the kidney, attention should be given to these organs. But perhaps the all-important element of the treatment is to watch the heart's action and keep it going by stimulants as long as possible. If the force of the heart can overcome the fatty capillary obstruction, then the outcome is much more favorable. First the fat must be forced through the pulmonary capillaries, and then through the capillaries of the systemic circulation.

Therefore, it would seem that judicious heart stimulation is about the only treatment available for this condition at this time, as it is of numerous other conditions.

The Contagiousness of Diabetes.

Cases have been recorded from time to time of the coexistence of diabetes in husband and wife. Debove in 1889 drew the attention of the profession seriously to the subject, basing his opinion and remarks upon five personal observations of what he characterized as conjugal diabetes. Since then the subject has rarely been mentioned. Hutinet (*British Medical Journal,* Feb. 4, 1905) has recently opened up the question with several

personal observations and collected cases to the number of 161. Such well known observers as Tessier, Marie, and Talamon are inclined to accept the possibility of contagion in diabetes. Hutinet suggests that the contagion, whatever its nature may be, is contained in the mouth, the saliva being a vehicle which serves to propagate the disease. It is noteworthy that transmitted diabetes differs in some of its characters from ordinary forms. It is less severe, more easily treated, and certainly more curable. Symptomatologically it differs in the absence of thirst and polyuria, and the glycosuria sometimes disappears spontaneously when the patient is relieved from the possible source of infection. Thus it has been noted in conjugal diabetes that when one of the partners dies the other rapidly recovers. If the contagiousness of diabetes should become an established fact, prophylactic measures are important. The greatest care should be taken to prevent spitting, and all articles of clothing likely to have been contaminated by saliva should be disinfected. Should gingivitis appear in diabetic subjects it should be energetically treated.

The Practical Value of Litten's "Diaphragm Phenomenon" in Diagnosis.

William N. Berkeley (*New York Medical Journal,* Feb. 4, 1905) says that to students in physiology the phrenic wave is useful as a demonstration of the respiratory movements of the diaphragm.

When unbroken and over three inches in extent on both sides, it is a good indication of healthy lungs, and should be incorporated as such into life insurance examinations.

It is an easy and practical substitute in many cases for the expensive and laborious *x*-ray examination of the movements of the midriff when such an examination is desired (Cabot).

When diminished markedly on both sides, low down in the thorax, and more marked behind than in front, it is an excellent sign of asthma and emphysema.

When absent or nearly absent on one side only it is a useful confirmatory sign of a variety of conditions which may be suspected from other signs, particularly pleurisy and early tuberculosis.

When absent on both sides no conclusion of any kind is really justifiable, unless the patient has been previously known to have had good waves.

The Efficiency of Copper Foil in Destroying Typhoid and Colon Bacilli in Water.

Henry Kraemer (*American Medicine,* Feb. 18, 1905), who has made a number of experiments along this line, says the intestinal bacteria, like colon and typhoid, are completely destroyed by placing clean copper foil in the water containing them.

The effects of colloidal copper and copper sulphate in the purification of drinking-water are in a quantitative sense much like those of filtration, only the organisms are completely destroyed.

Pending the introduction of the copper treatment of water on a large scale the householder may avail himself of a method for the purification of drinking-water by the use of strips of copper foil about 3½ inches square to each quart of water, this being allowed to stand over night, or from six to eight hours, at the ordinary temperature, and then the water drawn off or the copper foil removed.

The Histology and Genealogy of Hemophilia.

Alex Goodall (*Scottish Medical and Surgical Journal,* February, 1905) says that hereditary transmission is a striking feature in nearly every case. Although hemophilia is more common in males, it is not so infrequent in females as is generally stated.

A large proportion of the more recently recorded cases have been transmitted through the male line.

The condition is not due to any anatomical peculiarity of vessels or tissues demonstrable by present methods.

The essential pathology seems to consist in a greatly delayed coagulability of the blood, which progresses with progressing anemia.

There is reason to believe that calcium chloride may be of service, but its use is likely to be limited in severe cases by the irritability of the stomach and its nauseous taste.

Climatic Influence in Apoplexy.

Schmidt (*Wiener klinische Wochenschrift,* No. 50, 1904), on account of the apparent fact that apoplexy occurs more frequently at certain times, made statistical tables of the 4413 cases of apoplexy that occurred in Berlin between 1899 and 1903. These tables show that the season and condition of the weather

had no influence on the subject, though the barometrical fluctuation was not without importance, as during the months of December, January, February, and March the greatest number of cases occurred showing the highest mortality.

THERAPEUTICS.

Harmfulness of Warm, Moist Inhalations in Tuberculous Laryngitis.

L. T. Appleman (*American Medicine*, Feb. 18, 1905) says that many years ago, on fanciful etiologic and therapeutic grounds, Krull advocated the use of inhalations of the vapor of hot water (so-called steam inhalations) in the treatment of tuberculous laryngitis. The treatment was found to be harmful, and was abandoned, apparently for good. Recently, however, there seems to have been a revival of this ill-advised practice. The well attested usefulness in acute catarrhal laryngitis of inhalations of warm water vapor, medicated with compound tincture of benzoin and paregoric, as advised by J. Solis-Cohen, seems to have misled a number of physicians into expecting equally good results in a totally different condition, only superficially resembling acute laryngitis. In non-ulcerative tuberculous laryngitis—and nobody seems to have been sufficiently thoughtless to advise the use of steam in ulcerative conditions—as in acute catarrhal laryngitis, there are, it is true, hoarseness and pain, and the laryngoscope reveals more or less thickening and redness. But the underlying pathologic conditions are essentially different. Acute catarrhal laryngitis is the result of an irritative cause that has passed away; tuberculous laryngitis is the chronic result of a continuous cause. By its soothing and relaxing effects the warm, moist inhalation favors the subsidence of the acute inflammation and the absorption of any effused products. But relaxation in the chronically inflamed tissues of a tuberculous larynx favors the spread of the morbid process. Soothing applications are indeed useful, but these are to be sought in such agents as the suprarenal substance, menthol, orthoform, ethyliodid, anesthesin, iodoform, even cocaine as a last resort if need be—not in moist heat. Dry heat is said to be useful, and is not known to be harmful. Mild astringent applications by spray or topically, as zinc sulphocarbolate solution, one per cent glycerol of tannin, cupric sulphate one per cent, and mild sorbefacient and disinfectant applications,

as iodine and carbolic acid in glycerin (iodine 1 to 3 parts, potassium iodide 1.5 to 5 parts, glycerin 500 parts), or silver vitellin (5 to 25 per cent) solution, are also of service. In some cases chromic acid (1 to 10 per cent) solution, in some cases lactic acid (5 to 80 per cent) solution, in some cases guaiacol (10 to 25 per cent) in olive oil, with perhaps the addition of menthol (5 to 10 per cent), even in some cases of tissue thickening formaldehyde water (1 to 10 per cent of the commercial 40-per-cent solution), may be applied. In still other cases insufflation of powders is better. The parts are to be cleansed with a spray of solution of hydrogen dioxide, followed by some mild alkaline solution, and then agents such as finely pulverized calomel, boric acid, suprarenal extract, morphine, iodoform, orthoform, and tannin may be blown in. A single drug, or a mixture of two or more, may be used according to indications. Ulcers demand special treatment.

But the main purpose of this note is not so much to point out the many ways at command for the relief of the symptoms of tuberculous laryngitis, as it is to sound a warning against a harmful practice, unaccountably revived after a half-century of merciful desuetude, and to the injury of many sufferers.

Hot Water and Air in the Treatment of Diseases of Women.

Frankel (*Wiener med. Wochenschrift,* No. 2, 1905) finds the hot-air and hot-water treatment to be of great value in subacute and chronic inflammations of the uterine adnexa, and that the therapeutic action is greatly assisted by massage of the parts, which are partly anesthetized by the heat. He recommends an apparatus which consists of a hollow vaginal dilator through which hot water circulates.

Intravenous Injections of Salicylates and Their Diagnostic Value.

F. Mendel (*Münchener med. Wochenschrift,* 51, No. 4, 1905) states that he had no bad effects in 2000 cases where he used intravenous injections of 8 parts of sodium salicylate, 2 parts of caffeine, and 50 parts of distilled water. He injects two cubic centimeters at intervals of twelve hours to three days. Many of the patients injected had arteriosclerosis, diabetes, or were old people, their blood-vessels being in a diseased condi-

tion; nevertheless no mishaps occurred. By this method all rheumatic pains and joint exudates in rheumatism disappear, even after internal medication has failed. He urges this method as a means of diagnosis between rheumatic and other painful conditions. The injections should be made into the vein in the arm, never in the leg.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
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The Use and Abuse of Curettage of the Uterus.

E. K. Browd (*Medical Record*, Jan. 28, 1905) says that the apparent simplicity and security of the operation has led to the frequent performance of curettage of the uterus in cases in which the procedure is not only of no service but may even be directly contraindicated. It is useful in cases of endometritis not associated with pelvic inflammations, exudates, or diseased adnexa, in subinvolution of the uterus or retained secundines, in endocervicitis, as a prophylactic against carcinoma in mole pregnancies, and in all cases of endometritis of so-called hyperplastic nature. In postpartum infections there is room for much judgment, for while saprophytic cases with retained membranes, etc., are benefited by curettage, the measure is distinctly contraindicated if the infection is of the septic type. Curettage should not be regarded as a routine treatment for sterility, for it may aggravate existing pathologic conditions, while the danger of perforation is very great in curetting for syphilitic, tuberculous, sarcomatous, or cancerous degeneration of the endometrium. It should never be performed without an anesthetic owing to the danger of perforation due to sudden movements of the patient, or in dirty surroundings that cannot be rendered aseptic. A number of cases are cited in which disregard of these rules was followed by serious consequences.

Pneumonia and Pregnancy.

Robert C. Ransdell (*American Medicine*, Feb. 11, 1905) reports two cases. In the first case pregnancy was complicated by pneumonia and measles. The patient was delivered of a still-born child on the third day of pneumonia, and died on the sixth.

In the second case pregnancy was complicated by pneumonia and the presence of a large uterine fibroid. The patient was delivered of a healthy, full-term child on the third day of pneumonia, and died on the eleventh day.

From a careful study of his own cases and those from the literature the author concludes the death-rate is appreciably higher in the pregnant woman than in the ordinary patient. Abortion takes place in more than half the cases. The mortality is much higher when abortion takes place. The mortality is higher in the last three months of pregnancy than in the first six. The causes of death can be attributed to (*a*) diminution in hemoglobin, (*b*) degenerative changes in heart muscle, (*c*) overloading of the right heart and pulmonary circulation after birth. The large percentage of abortions is due to accumulation of carbonic acid in the blood.

Chorion-epithelioma: Prognosis and Treatment.

K. Hammerschlag (*British Gynecological Journal,* November, 1904) gives a detailed report of five cases, with a critical consideration of their history in relation to the points at present in question. On the whole he accepts Marchan's views. He draws the following novel and interesting conclusions: Growths of chorionic epithelium in the uterus may, perhaps under the help of curettage, undergo involution. Nevertheless a malignant tendency may have existed in the cells of the chorionic epithelium, and may be manifested by the formation of malignant chorion-epithelioma outside the sphere of its settlement. Renewed curettage may accidentally give evidence of the unsuspicious nature of the latter, and is therefore not a sufficient basis upon which to found the clinical treatment and prognosis. A considerable time (two to five years) may elapse between the pregnancy and the fatal termination of the chorion-epithelioma dependent thereon.

Coexisting Uterine and Ovarian Fibromyomata.

F. E. Taylor (*Edinburgh Medical Journal,* December, 1904) points out that ovarian coexisting with uterine fibromyomata of the same kind are generally small. Occasionally one may in such cases meet with a large tumor, and there is then a great tendency to torsion of the pedicle.

THE MEDICAL AGE

Vol. XXIII. DETROIT, APRIL 10, 1905. No. 7.

ORIGINAL CONTRIBUTIONS.

THE INCREASING IMPORTANCE OF THE PANCREAS.

BY G. R. REYNOLDS, M.D.

Twenty years ago, or even ten, there was little or no attention paid to the pancreas or its disorders. Take up any medical book of the period, and you will note that the space devoted to the pancreas is infinitesimal. It has been only within the past ten years that this organ has grown in importance in the professional mind. There are many reasons for this lack of advance; the organ is encompassed by important structures, many of which are most vital to the economy, so that it is seldom injured without more important viscera being involved. Years ago it was supposed to be simply a buffer to protect the large vessels lying behind it. Uncomplicated rupture does not occur, although partial laceration or bruising without implication of the adjacent structures can happen after an abdominal contusion, which is only demonstrated by pancreatic scars found at post-mortem. The pancreatic tissue is comparatively soft and easily bruised, although it is shielded in its position from direct injury, but unfortunately a slight injury is more serious than on other organs. For this reason the pancreas has been a laggard in medicine and surgery.

Wirsung in 1642 discovered the pancreatic duct, proving the glandular nature of the organ; before that it was the recognized seat of melancholia and ague. Not much more was known until Flexner began his work on experimental pancreatitis years ago; he states that the pancreatic secretion may enter the peritoneal cavity without setting up diffuse inflammation, but in a certain number of instances sterile pancreas or its secretion produces local fat-necrosis, the element of infection playing a very insignificant part. In peritoneal fat-necrosis the fat-splitting ferment is demonstrable in certain stages of the pathological process, being

present in greatest amount early, disappearing as healing advances. Flexner believes that it is highly probable that steapsin is the direct cause of necrosis. The escape of the pancreatic secretion into the peri- and parapancreatic tissues originates the necrosis, this escape being aided not only by lesions of the pancreas, but by disturbances of its circulation, which include the effects of injuries inflicted upon the gland as well as the results of passive congestion.

Oser's classification of diseases of the pancreas is adopted by Flexner. This is: (1) Acute hemorrhagic pancreatitis; (2) suppurative pancreatitis; (3) necrotizing pancreatitis; and (4) chronic indurative pancreatitis. Flexner concludes that hemorrhage is a common condition of all forms of pancreatitis, and that when it is excessive it dominates the process, being more pronounced usually in inflammatory lesions, and the two conditions may be separate and distinct in the same organ, or parts of the organ. Fat-necrosis results from the perversion of the pancreatic secretion, resulting from the action of the fat-splitting ferment. Owing to the severity of the means employed to provoke pancreatitis in experimental cases, hemorrhage does not occur commonly independently of the inflammation. The part which infection plays is probably secondary to the action of the pancreatic secretion upon the injured part. The relation between diabetes and diseases of the pancreas, the nature of the leukemia present in animals experimented upon, the relations between the spleen and the pancreas and their functions, and, finally, the relations between the liver and the pancreas, are still open problems.

Robson, whose name is associated indelibly with pancreatitis, states it is a curious fact that although surgeons have been removing gall-stones from the common duct for a little over 100 years—*i.e.*, since Courvoisier's first successful choledochotomy in 1790—and that although the subject of jaundice dependent on obstructed common duct received great attention from physicians for many years, only recently has it been observed that whatever obstructs the common bile-duct at its lower end must of necessity lead to an obstruction in the pancreatic duct; and although, since the description of the disease by Charcot as intermittent hepatic fever, infective and suppurative cholangitis has been well recognized by pathologists, yet infective and suppurative catarrh of the pancreatic duct even now receives no recognition. Practically all diseases of the pancreas except those producing gross organic changes, such as cancer, acute pancreatitis, cysts,

and calculi, have been ignored; although both post-mortem observation and surgical experience show that under similar conditions the pancreatic ducts participate in the same inflammatory processes as the bile-ducts in the obstruction of the common bile-duct, where jaundice demonstrates the fact. Unfortunately no pathognomonic sign has been discovered which will show conclusively that the pancreatic ducts are occluded, unless it is extremely rapid loss of weight. The presence of fat-necrosis affords a very important clue, hitherto only discovered, however, when the abdomen was opened; but even for fat-necrosis to take place there must probably have been some escape of the fat-splitting ferment from the gland, and therefore the affection of the pancreas must be somewhat advanced before the sign is evident. Glycosuria, lipuria, and fat in the stools occur too seldom to be of much use in the diagnosis of pancreatic disease, though when present they are of great diagnostic significance. Robson believes that physiological chemistry may help us in the diagnosis, but that our observations are not by any means yet complete.

Undoubtedly bacterial infection is the essential and immediate cause of the various forms of pancreatitis, this having been positively proved both clinically and experimentally in lower animals. Looking for exciting causes in pancreatic diseases, we find biliary and pancreatic lithiasis, injury, gastroduodenal catarrh, ulcer and cancer of the stomach, pylorus, or duodenum, and zymotic diseases, such as typhoid fever and influenza, to be factors; yet in some cases pancreatitis has come on suddenly in persons apparently in robust health, and here the determining cause has been undetermined. The association of gall-stones with chronic pancreatitis was absolutely forced on Robson's mind by the frequency with which he found inflammatory enlargement of the head of the pancreas when operating for gall-stones in the common duct, the first instance of the kind having been observed by him in 1892, in a case on which he operated for deep jaundice, supposed to be due to common bile-duct obstruction, but in which he found cirrhosis of the head of the pancreas. Since that time he has operated on a considerable number of cases, and though only one patient has died directly from the operation, in the other two, one a cholecystenterostomy and the other a cholecystotomy, death occurred within a few months, and the correctness of the diagnosis was verified both by autopsy and by microscopic section of the diseased pancreas.

Korte describes four cases of acute inflammation of the pan-

creas operated upon by him, two of which recovered. The early symptoms were those of acute intestinal obstruction, which may end in collapse and death, or which may become subacute or chronic, when gastric disturbances, septic fever, diarrhea, evacuation of pus per anum, and sometimes slight jaundice, are the chief points to be noted. In all cases vomiting and epigastric pain were noted. Two cases are recorded of exfoliation of the necrotic pancreas and its passage per anum, followed by recovery.

The presence of fat in the alvine evacuations is considered so characteristic of pancreatic disease that these two cases are instructive as tending to prove that, even in an advanced condition of structural disease of the organ, this symptom may be entirely absent. The absence of color from the motions has also been insisted upon as indicative, in the absence of readily recognized hepatic disease, of some interference with the pancreatic secretion: for instance, Claude Bernard taught that the coloration of the feces was indirectly due to the action of the pancreatic juice, and Walker likewise came to the conclusion that a deficiency of pancreatic fluid would, as readily as a deficiency of bile, cause clay-colored evacuations. If this were entirely true, it is difficult to understand why in both these cases—and particularly in the second case, where the whole substance of the gland had undergone extensive change—the motions were not always colorless.

Fat-necrosis, first described by Balser, is the splitting up of the fat into acids and glycerin, the latter being absorbed, but the acids, being insoluble, remain in the cells and unite with calcium salts, forming yellowish-white patches of various sizes in the subperitoneal fat and in the omentum and mesentery. Fat-necrosis is commonly found with pancreatitis and other diseases of the pancreas, and the relationship between the two conditions has given rise to much speculation; but fat-necrosis is not found in all acute pancreatic diseases, and that it has been noted during abdominal operations for other ailments, and in autopsies where there was no suspicion of pancreatitis, appears to show that the condition giving rise to it is not essentially a pancreatitis, though these facts do not disprove that fat-necrosis is essentially due to interference with the discharge of pancreatic secretion, and so to an escape of pancreatic fluid into the tissues, whence it may be taken up by the lymphatics or blood-vessels. Flexner regards the fat-necrosis as the effect of the fat-splitting ferment of the pancreatic fluid, which has in some way escaped from the duct into the surrounding tissues; the existence of the patches of fat-

necrosis occurring at a distance from the pancreas—for instance, in the pericardium—is hard to explain, unless it be by absorption of the ferment and its diffusion by means of the lymphatics. This undoubtedly explains the disintegration of the fatty tissues immediately surrounding the pancreas, extending by continuity.

In acute infective pancreatitis, treatment must be that of peritonitis, commencing in the superior abdominal region. The pain at the onset is so acute as to necessitate the administration of morphine, and the collapse will probably require stimulants, which, on account of the nausea, may have to be given by enema. Usually in the early stages the symptoms are so indefinite that the indications for surgical treatment are not clear enough to warrant operation, and until the collapse has passed off no surgical procedure would generally be justifiable. The stimulation of intestinal obstruction will probably lead to efforts to secure an evacuation of the bowels and relief of the distention. As in a perforative or gangrenous appendicitis an early evacuation of the septic matter is necessary for recovery, so in this affection an early exploration from the front through the middle line above the umbilicus, or from behind through the left costovertebral angle, is demanded, to evacuate the septic material and introduce free drainage. Should no pus be found, no harm has been done by such an exploration, which can be made in a few minutes through a small incision in the middle line above the umbilicus, if necessary by cocaine anesthesia. The diagnosis being made by the anterior small incision and the introduction of a finger, make the posterior incision, which must be vertical, in the left costovertebral angle, so as to permit the insertion of the whole hand if thought desirable, which will enable the diseased organ to be freely examined, and if necessary drained for the evacuation of pus and gangrenous material. The general peritoneal cavity is not involved, and retained septic matter will not be left, for the drainage will be dependent.

It is easier to treat subacute pancreatitis, as the indications are more definite and there is more time for consideration; and though it has usually only been attacked when an abscess has formed and is manifestly making its way to the surface, yet there is no reason why in some cases surgical treatment should not be adopted at an earlier stage. As in the acute condition, morphine may be required to relieve collapse and support strength. Any distention also demands attention; lavage of the stomach and turpentine enemata or the administration of calomel by the mouth may be sufficient. Calomel is also of benefit by acting as an intes-

tinal antiseptic, given in small, repeated doses, or in doses of five grains, followed by a saline aperient. As soon as the constipation is relieved, diarrhea is apt to supervene, to relieve which give salol and bismuth with small doses of opium. If surgical treatment is decided on, a median incision above the umbilicus will enable the operator to palpate the pancreas and locate any incipient collection of pus, which, if practicable, should then be evacuated by a posterior incision in the left or right costovertebral angle; or, if the posterior incision be thought impracticable, the collection of pus may be aspirated and the cavity opened and packed with gauze, which may be brought forward through a large rubber drainage-tube, that will in the course of from twenty-four to forty-eight hours establish a track isolated from the general peritoneal cavity. If a definite abscess forms and approaches the surface in front or in either loin, the treatment will be that of incision and drainage, as in the case of any other abdominal abscess.

The good results obtained by establishing a fistula between the dilated bile-duct and the small intestine suggested to Nimier the possibility of dealing successfully with obstruction and dilatation of the pancreatic duct by an analogous procedure. The chief difficulty was the possibility of diagnosing obstructive dilatation of the duct. In the formation of such a fistula he uses Murphy's button; it might be found possible to take advantage of the anatomical proximity of the duodenum and pancreas and to drain pancreatic cysts into that bowel. Korte, who has been an active worker, has had four cases of suppuration and necrosis of the pancreas, and one case which did not go on to suppuration. Two of the cases operated on recovered, and two died; the first case was diagnosed in the course of treatment. The patients were aged from twenty-two to forty-eight years—three women and two men. In one case there was almost complete necrosis of the gland; in two partial necrosis, with suppuration; in one, suppuration. Two of the patients had been corpulent. The symptoms are sudden, severe illness, usually in a patient seemingly in good health, or after slight digestive derangement, vomiting, pain in the abdomen extending from the epigastrium, great prostration, usually constipation, abdominal distention, and sense of pressure. The acute stage may very easily be mistaken for some other common affection, such as gastroduodenitis, poisoning, biliary colic, peritonitis, or intestinal occlusion. Sometimes the symptoms subside in a few days, then in one to three weeks recur. Two cases were recorded by Korte in which recovery resulted after the necrosed

pancreas was passed per anum. In the subacute stage a swelling was seen in the epigastrium between the stomach and colon, extending to the left, and in some cases could be followed to the left lumbar region. At times the pus about the pancreas escapes into the bursa omentalis, where it may form an encapsuled abscess, or it may burrow behind the peritoneum. Post-mortem observations and injection of coloring matter into the pancreas show that pus may pass in the following directions: (1) Distention and rupture into the bursa omentalis; (2) burrow down to the left side behind the descending colon; (3) in a few cases to the right; (4) along the spinal column down between the layers of the mesocolon or mesentery.

The diagnosis is made from the characteristic start of the affection, followed by the epigastric tumor in the left lumbar region. Purulent escape into the bursa omentalis may occur in other affections, and this lumbar swelling must be carefully distinguished from a perinephritic abscess. The pus is thick and contains a large amount of fat, at times tallow-like masses of fat, and necrosed shreds, usually fine, and fattily degenerated pus corpuscles. The treatment is settled by the diagnosis: in abscess in the bursa omentalis, laparotomy, suture of the walls, drainage, a counter-opening to be made if possible; in the retroperitoneal form, incision in the lumbar region and freeing of the posterior peritoneal wall into the abscess.

Chronic pancreatitis should be treated also by abdominal section and drainage, but here the drainage is indirect and obtained by draining the gall-bladder by cholecystotomy, cholecystenterostomy, or duodenocholedochotomy. Robson prefers, as in all gall-bladder operations, a vertical incision through the upper part of the right rectus, splitting that muscle in order to obtain a good view of the diseased region, and to afford plenty of room for working. If a mere cholecystotomy on a distended gall-bladder is necessary, an incision of one or two inches will usually suffice; but if the gall-bladder is contracted, or if the ducts have to be attacked, an incision of four to six inches will be required, avoiding hernia by suturing the several layers of the abdominal wall separately. It saves time and unnecessary dragging on the parts when operating on the common duct or duodenum to have a free incision, and there is no retractor equal to the hand of a skilful assistant, who, with a flat sponge interposed between the spread-out fingers of his left hand and the viscera, will at the same time afford the operator a good view of the field of operation, and with his right hand aid in the operation. Should the right costal

margin or the edge of the liver obstruct the view, another assistant may retract it either by digital manipulation or by means of a wide retractor with a long handle, so that he can stand back a little out of the way of the operator. A sponge in the pouch to the right of the common duct and one pushed down over the right kidney help to catch all escaping fluids and to keep the peritoneum clear; when the ducts or the duodenum are opened, sterilized gauze pads are employed to mop up the fluid as it escapes, but none of these are allowed to remain even temporarily in the abdomen. Any gall-stones should be removed, unless the patient is too ill to permit of the complete operation; but in every case drainage must be secured, if possible by cholecystotomy; moreover, the drainage must not be stopped before the bile has become healthy and the greater amount is being passed by the bowel. This will occur as soon as the swollen pancreas has subsided, if no obstruction exists in the duct.

I will report several cases confirmed by post-mortem examination. The following case was that of a man sixty years of age, a laborer, who had been suffering for some weeks from intense pain in his back and left hypochondrium; his organs were sound, with the exception of his stomach and kidneys; a chronic diffuse nephritis of the parenchymatous type was present, and he was voiding a small amount of urine which contained only half the normal amount of urea, a great abundance of albumin, and granular, hyaline, and epithelial casts. In the vomited matter, and also in the material removed by stomach-tube, there was some mucus. The gastric fluid had a very poor digestive strength, and there was absence of hydrochloric acid. Later on he began to be jaundiced gradually; his rapid wasting, the continuance of the stomach symptoms under treatment, the diminution of urea, the persistence of the pain, and, finally, the rapid change in the hepatic symptoms, which were more marked than would be expected in catarrh of the biliary passages, suggested that the man had malignant disease originating somewhere in the pancreas, involving the head of that organ, and that it either involved the common bile-duct or there was obstruction to the outflow of bile from pressure of the head of the pancreas upon the common bile-duct, producing intense jaundice. These views were strengthened by the passage from the bowels of a material like butter, which proved to be fat partially saponified, and showing at times crystals of leucin and tyrosin.

Now one of the most important symptoms of disease of the pancreas ordinarily is the passage of fatty matter from the

bowels; it is not pathognomonic of pancreatic disease, as I have stated, for we have fatty discharges from other conditions; similar discharges result from obstruction to the outflow of bile, and they have occurred without disease of the liver or pancreas. But as a rule, when we have serious disease of the pancreas, and particularly tumors involving the head of the organ, stools consisting of aggregations of fat appear. Vomiting is a symptom of disease of the pancreas; sometimes a thin vomit somewhat resembles saliva, called "salivation from the pancreas," but it is not necessary. Intense pain is a very striking and a very common symptom of disease of the pancreas, and particularly when there is a neoplasm present. This pain is generally neuralgic, and is doubtless due to involvement of the solar plexus through pressure upon or actual disease of the plexus. The pain is referred to the left hypochondrium, epigastrium, and back, occurring particularly in the abdomen, midway between the ensiform cartilage and the umbilicus, but with pain in the back as well.

Post-mortem examination showed a mass of carcinomatous tissue which involved the left kidney and the tail of the pancreas, extending also to the head of the organ, involving the common bile-duct, and, as a result, obstructed the flow of bile and produced distention of the gall-bladder to the length of six inches, so that it could be felt before death. The liver was enlarged from this obstruction to the outflow of bile. The kidney showed evidences of a parenchymatous degeneration, accounting for the albumin and casts. The stomach was also involved in this process.

Harley some years ago reported a remarkable and instructive case of pancreatic obstruction as follows: "E. W., aged twelve, during convalescence from scarlet fever developed an attack of what appeared to be gastritis. On his recovery he left home for a change, during which time he suffered from some slight albuminuria, and an oily secretion was observed on his clothes. He returned home immediately, and the urine examined was found to be quite normal as regards the presence of albumin or sugar. The motions were large and soft, light-brown to gray in color, and were passed after each meal. Mixed up with and surrounding them was a brown, oily-looking material with a most offensive smell, and which on cooling solidified and looked exactly like beeswax. The motions also contained undigested meat, in which the fibers could be distinctly made out. The appetite was excessive. The abdomen was distended with flatus, and pain was complained of in the rectum, which on examination was found much congested, the mucous membrane presenting a good deal of

villous growth. The case was diagnosed as obstruction of the pancreatic ducts from duodenitis, this being most probably the correct explanation of the symptoms previously diagnosed as gastritis. The treatment prescribed was a diet of milk, Mellin's food, fish, and bread, together with malt and cod-liver oil, with pancreatin (2-grain pills, salol-coated), after each meal; 2 grains of calomel at night and sulphate of soda in the morning were also ordered. Under this treatment no oil appeared for three weeks; then it began again, and his condition got worse. Liquor potassæ and benzoate of potash, in addition to the above treatment, was used, the latter having a most decided effect in subduing the objectionable odor of the motions, although in other respects they remained the same as before. The benzoate of potash was continued; also calomel powders at night, together with liq. ferri perchloridi dil. min. viij, thrice daily, with the result that the irritability of the rectum improved, the motions became more formed, and the quantity of oil lessened considerably. From this date to February, 1895, he continued to take the malt with cod-liver oil, pancreatin pills, 2½ grains, thrice daily, the iron tonic, and also the potash benzoate and calomel. He was now passing two large motions daily, and the quantity of oily matter varied, as much as two ounces being voided at times, and on one occasion none. Any overexertion, exposure to cold, or sudden fall of atmospheric temperature was invariably followed by an increase of the fatty matter the next day. In the following December, Harley made an analysis of the motions, and recommended the administration of raw pancreas, which was begun February 28, and carried out for ten days, the patient receiving pig's pancreas daily, but this was discontinued on account of his temperature suddenly rising to 104° F., with rapid pulse, headache, malaise, and white-coated tongue; the following day the temperature was 105° F.; during the next two days it fell to subnormal, reaching 97° F. on March 13, when he suffered from attacks of syncope every two hours, which gradually subsided, the temperature remaining subnormal until March 22. These symptoms were probably due to influenza (which was prevalent at the time) in a previously debilitated subject, but the boy having remarked two days before the attack that one of the pancreases tasted differently to the others, his parents ascribed the illness to the treatment, and declined to pursue it further, thus rendering it necessary to revert to the drug treatment above mentioned, and which he still continues. His condition shows great improvement in general health, the two daily motions are still rather large, but

no oily matter has passed since the 25th of last September, and he has gained 16 pounds."

Harley states that the results of the analyses showed that large quantities of fat appeared in the stools, no less than 73 per cent of the total quantity given. The proteids excreted in the feces were far above the amounts normally found, so that 40 per cent of the nitrogen given had been excreted in the stools. The foul odor of the stools was a constant feature in the case of dogs, in which almost the whole pancreas was removed, and was, at the same time, specially marked in the case of this boy. These facts led Harley to believe that the pancreatic secretion was not reaching the alimentary canal. That this is not due to an absence of the pancreas, or destruction by disease, is shown by the fact that sugar at no time has been present in the urine, and therefore the evidence is in favor of an occlusion of the duct of the pancreas. The morbid anatomical condition which has led to this obstruction would appear to be some chronic inflammatory stricture of the duct. At the same time, since analysis has shown us that bile is reaching the intestine, the common bile-duct must have remained free. We cannot suppose that the common orifice of the bile and pancreatic duct can even be partially obstructed, for since bile and pancreatic juice are secreted at about the same pressure, namely, 200 millimeters of water, it is hardly possible that only one fluid should be hindered in reaching the intestine. The pancreas is, however, known to have very frequently accessory ducts, or in some rare cases to enter the duodenum separately from the common bile-duct. The commonest form of accessory duct is one entering the duodenum nearer the stomach, and this case suffered from gastritis previous to the appearance of the foul-smelling motions. It is conceivable that the main duct of the pancreas may be absent, and only the accessory duct is present, so that the inflammation spreading from the stomach down the duodenum may have involved it, without having extended far enough to have likewise involved the orifice of the common bile-duct. In this way there might have been a complete obstruction of the pancreatic duct; or we can imagine that both the main duct and the accessory duct were present, but the inflammation had extended up the accessory duct so as to involve also the main duct. When the quantity of food given is increased above the quantity necessary for a healthy individual, so that the quantity absorbed may be equal to the number of calories necessary to maintain the body weight in health, owing to improper metabolism, it is insufficient to keep the weight up to the normal

standard when the pancreatic duct is obstructed. On still further increasing the quantity of food, however, the body weight can be maintained, and we see that in the case of this boy careful dieting, together with treatment, has not only been able to keep up his weight, but even to cause a gain of two pounds in a space of four months.

LABOR AND THE PUERPERIUM, FROM THE STANDPOINT OF THE GENERAL PRACTITIONER.

BY JOHN W. STAPLES, M.D., FRANKLIN FALLS, N. H.

From the standpoint of a general practitioner, predicating his opinion upon an experience of twenty-three years, labor and the puerperium should be, and in the larger percentage of cases are, normal, physiological processes.

The pathological conditions are diseases incident to the non-pregnant woman, anatomical anomalies, and infections contracted before the onset of labor, for which the accoucheur has no responsibility, and the pathological conditions arising during the puerperium are either to be accredited to those preëxisting causes, or are the result of infections from without, for which in a large degree the attending physician or some one else should be blamed, for negligence or surgical uncleanliness is, like many other statements, a half-truth. We have only to call to mind, in the case of the non-pregnant woman, the recrudescence of infectious processes from the smoldering embers of a gonorrhea, from a localized infection of a tube following abortion, or a previous septic puerperium, to understand how infectious organisms may start into new life by the processes of labor forcing them upon new pasturage, where the circulatory conditions prevailing during the puerperium furnish both food and drink.

That these cases are not numerous as compared with the whole number I will admit, for the ban of barrenness has been laid, in a kindly way, upon these women; but they sometimes furnish the most serious and dangerous cases of puerperal sepsis, and bring upon the attending physician an opprobrium he does not deserve. It is true that the cases of gonorrheal infection lack the virulency of the streptococcic and allied infections, but they so interfere with the normal involution of the pelvic organs that even in the absence of mortality the morbidity is great, and salpingitis, ovaritis, parametritis, and a whole train of pelvic disabilities result. The accompanying nervous instability makes nervous invalids of these women, and brings them, oftentimes

too late, to the operating table of the gynecologist for relief. The laity have been educated to think that the attending physician is generally responsible for the morbidity and mortality of the puerperal state. I think he should be held to a high standard of responsibility, but he should not be made a vicarious sacrifice. Women should be taught the baneful effects of gonorrheal infection upon the reproductive organs, and the possibility of its passing from a latent to a virulent form under the stimulus of child-bearing, with the same reason that men should be taught the dangers of a latent but not extinct infection in specific urethritis. They should be taught, also, that the infections following abortion, criminal or otherwise, may be the source of infections in succeeding pregnancies. From these two sources the gynecologist obtains the material for a good percentage of pelvic surgery. The sins of the fathers are visited with unfailing certainty upon the mothers, and the sins of the mothers, in thwarting nature, seek a hiding-place in the alleged carelessness and incompetence of the attending physician.

The physician, experienced or otherwise, who is called to a case of labor, if he is well instructed and conscientious according to his knowledge, goes to it with a feeling of uncertainty as to the outcome of that individual case, and if his experience has been an unfortunate one, with something of dread. He will, therefore, go prepared for emergencies, and his armamentarium will be that which he has found most serviceable in his field of work. Suffice it to say that he will go prepared to conduct all his manipulations according to the modern demands of surgical cleanliness.

Keeping this in mind as the least possible demand upon him, his obstetric outfit will vary with his needs. If he has a practice among the wealthy and well-to-do, he can be a master of the situation, so that his preparations and work will approach the ideal, but if he ministers to the needs of the poor and lowly he will be obliged to see some of the canons of asepsis disregarded. He will not be satisfied as to duty fulfilled with anything less than the nearest approach to cleanliness possible, and this will insure him the best results. Although the physician knows that most women enter upon labor with normal pelves and a perfect functioning power of the organs of secretion and elimination, yet he must forearm himself with positive, accurate knowledge by pelvimetry, especially in the case of primiparæ, or any anatomical abnormalities, by chemical, microscopical, and other approved means of diagnosis, of any lurking contagious or infec-

tious process, and the failure of any organ, especially the kidneys, to do its work properly. I believe that more and more the general practitioner will rely on external manipulations to determine presentation and position, and this will free him from being a carrier of contagion to the genital tract by digital examinations. If he is sure of his asepsis, however, I think vaginal examinations allowable, to give him information of the position of the child and the progress of labor, not to be obtained in any other way. If he is surgically unclean, he should avoid vaginal examinations altogether; if he has clean hands and aseptic gloves the danger of vaginal examinations is reduced to a minimum, and his practice will depend upon the knowledge he can obtain in this way, not otherwise obtainable.

We have had all sorts of advice for avoiding ruptured perineums and lacerations of the genital tract. Most of this advice has nothing to recommend it, and some of it is worse than useless, and would lead to baneful results if followed. Oftentimes lacerations are unavoidable by any assistance on the part of the physician. The avoidance of too precipitate delivery by properly applied pressure against the presenting part and pronounced flexion of the head, so that the perineal structures are stretched by the least possible diameters of the head, are the main things to be remembered, but in spite of all precautions there will be lacerations. The physician who says he never has lacerated perineums in his obstetrical work never looks to find them, and rests in fancied security that the recording angel in the person of some other physician will not make an open book of his record of failure to do immediate reparative surgery upon the perineal structures of his former patient.

Shall a ruptured perineum and lacerations of the genital tract be repaired immediately following labor, either the second or third stages? Most certainly, as a rule, and good results can be expected with an aseptic field, otherwise attempts at repair will be worse than useless, for there will be little or no healing of septic cases, and septic material is more confined. One is easily deceived by the amount of trauma the peritoneal structures suffer, for the apparent laceration and evident lesion of mucous and submucous surface is not a fair indication of the injury done to the muscular structures beneath, so that a perineum will be left with little elastic support to prevent prolapsus.

How long ought the third stage of labor to continue before manual interference by Credé or otherwise is used? Much will depend upon the length and character of the first and second

stages of labor, the nervous and muscular exhaustion present, and the uterine fag produced by these causes. The obstetrical attendant, who is a wise and patient waiter, will lose nothing by waiting. It is my opinion, which is probably not generally held, that Credé's method of placental expulsion has been overworked, untimely and disastrously. To say that one has used Credé's method is a palliative excuse for brutal, misapplied force. The special object sought is the expulsion of the secundines in their entirety, with avoidance of undue hemorrhage. That this object is thwarted and prevented by many attempts at manual expulsion I have no doubt. Misapplied force, producing irregular contractions of the uterus, has no less baneful result than forceful traction of the cord to cause placental separation, the leaving of placental tufts and membranous shreds to cause future hemorrhage, sapremia, and, without surgical interference, septicemia.

What shall the diet of the woman be during the early days of the puerperium? Starvation, moderate, or abundant? Never the first, if possibly avoided; many times the second, and often the third. Ruling out sepsis, intestinal, genito-urinary, and septic mastitis, there will be a demand on the mother's part for a liberal diet, inasmuch as she must maintain her own nutrition at a high point and furnish food for her child. That she should need an abundant supply of good, wholesome, nutritious food is a physiological demand, and should be wisely acceded to. At no other time, ruling out a few exceptional cases, does nature demand so much food, and provide for its use and combustion in the body. Therefore, feed liberally and supply an abundance of pure, cold water, so grateful to the patient and so valuable as a solvent and carrier of waste material.

When it is deemed best or needful to restrain or prevent the functioning power of the mammary glands, what shall we do and what shall we refrain from doing? If you will call to mind that the secretion of milk is a physiological process, excited by friction, massage, and nervous influences exerted upon the mother by the nursing of her child, a rational method of treatment will suggest itself. A breast, uninfected, with an aseptic bandage, left entirely alone, will give no trouble beyond the pain resulting from the primary distention. No breast will suppurate, or suffer damage, if given physiological rest, and friction, massage, and overzealous teasing avoided.

The normal puerperium is without an abnormal temperature, and a rise of temperature, as a rule, is from septic causes, either in the intestinal and genito-urinary tracts, or through the

absorption by way of a broken epithelial surface in the breast or elsewhere of septic material. I suppose the bugaboo of milk fever has been relegated by most physicians to the lumber room for defunct medical theories. In the case of sepsis fever I have already attempted to apportion the blame to all concerned, with what show of justice I will leave to your judgment to decide. I believe a recumbent position in the normal puerperium is more zealously insisted upon than the good of the mother demands. I believe the mother can be allowed with impunity to sit up earlier than the conventional tenth day, the conventional two weeks, or longer time, as the clientage of the obstetrician permits. By allowing the woman in the early days of the puerperium to rise for urination and defecation, or for a restful change of position, a more perfect drainage and firmer contraction of the uterus are assured, and a hastening of the process of involution. Long enforced recumbency is not a promoter of muscular activity, or retrogressive changes in tissues that have been forced to unwonted size and functional activity to meet the demands of child-bearing. I do not believe morbidity is made greater by allowing women during the puerperium a freer choice between recumbency and the erect position.

What shall be done in an apparent case of sepsis? Shall we use curettage, intra-uterine douches, or treat general symptoms without surgical interference? I broach the discussion of this pathological condition with some hesitancy, for the principles of treatment have been so imperfectly formulated hitherto that there is no general consensus of opinion as to what should be done. I invite a free discussion of the methods of treatment in these cases, which are so threatening to the life and health of women, and bring such worriment and blame, oftentimes undeserved, upon the medical attendant. It has been your experience, as it has been mine, to have a woman in a seemingly septic state, with high fever, rapid pulse, and severe headache, following prodromal malaise and an initial chill, who has in a few hours after curettage returned to a perfectly normal condition, to remain so until convalescence has been fully established. It has been your lot, as it has been mine, to do curettage on a case, perhaps less threatening than the former, and not to be differentiated from it by ordinary methods of diagnosis, to have the symptoms of sepsis continue unabated or made worse. How shall we tell when to curette and when not? When shall we use intra-uterine douches? Is there such

a thing as sapremia, where the organisms are those producing a toxin, by the absorption of which the characteristic symptoms are produced? Or is sapremia always a septic process where nature has kindly protected our patient by a cellular wall of defense from deep infection? Is there any way to differentiate except by an expert microscopical and cultural examination of the uterine discharges? Does an intra-uterine digital examination, disclosing an abundance of débris and broken-down necrotic tissue in the one case, or a perfectly smooth uterine surface in the other, give us sufficient warrant to operate or not? What but harm can come from opening new channels of infection for a septic process when the infection is anything more than superficial? Are we not tempted to do curettage without sufficient cause to save ourselves from the imputation of allowing our patients to drift? These questions and others of like import thrust themselves upon us as we have to decide for or against operative measures in these cases.

Preliminary examinations for appointment of assistant surgeons in the army will be held on May 1 and August 1, 1905, at several points to be hereafter designated. Permission to appear for examination can be obtained upon application to the Surgeon-General, U. S. Army, Washington, D. C., and from whom full information concerning the examination can be procured. The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, and shall be of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice. The examination will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to the localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible. In order to perfect all necessary arrangements for the examination of May 1 applications must be complete and in the possession of the Surgeon-General on or before April 1, and for the examination of August 1 on or before July 1. Early attention is therefore enjoined upon all intending applicants. There are at present twenty vacancies in the medical corps of the army.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

A NEW TREATMENT OF ANEMIA.

In 1900 Professor Lucatello of Italy published a series of clinical cases of anemia in which he obtained a considerable improvement in conditions by administering a special serum. This he prepared by injecting animals with several cubic centimeters of blood from the anemic patient under observation, and then drawing from the animals a serum that he in turn injected in small doses into the patient. In this way he succeeded in improving very materially the globulimetric index. The same investigator has since occupied himself in similar studies in the hematic cytotoxins, and does not hesitate to predict the production of a specific antitoxin. The cytolytic action of this new antibody will, he thinks, enable the defective organism to effect its own sanguineous repair.

Taken in connection with this a recent article by Engel (*Zeit. f. klin. Med.*) acquires new interest. In this he records precisely the serotherapeutic measures he undertook in a case of grave anemia which resisted all possible curative expedients. He treated a woman twenty-two years of age who had suffered from anemia for two years. The red cells were 2,400,000, the leucocytes 10,000. The blood gravity was 1042, and the hemoglobin 30 per cent. Of the leucocytes, 60 were polynuclear neutrophiles, 2 eosinophiles, 34 lymphocytes, and 4 per cent of these large lymphocytes. Eight to ten cubic centimeters of blood was extracted, the serum of which was used for endoperitoneal injection in a rabbit. This process was repeated several times. After the patient had been bled for the fifth time she received her first dose of the therapeutic serum. She experienced at once a subjective sensation of well-being. Objectively an improvement was found in the blood. The specific

gravity was 1044, the hemoglobin 1030 to 1032, and the cellular elements showed notable changes. Injections of the immunizing serum continued to be made at intervals. On one occasion she was given two injections simultaneously, one of the rabbit's serum and one of normal human serum. The result of this was constitutional derangement, chills and fever, headache, and drowsiness. The subsequent treatment of the case was conducted according to the method first selected. The blood gradually rose in specific gravity to 1044. A fourth injection was given about two months from the commencement of treatment, and this concluded the therapeutic measures. A year after, without taking any arsenic or iron, the patient showed the specific gravity of the blood to be 1058, the hemoglobin 90 per cent, the red cells 4,800,000, the white cells 5000. These results, which were certainly satisfactory, should indicate the wisdom of a sympathetic estimate being taken of the therapeutic measures employed.

EDITORIAL NOTES.

A New Method of Formaldehyde Disinfection.

The Maine State Board of Health has recently brought forward a method for obtaining gas from formaldehyde that is the most simple and inexpensive yet devised. No apparatus is required, and the usefulness of the process has been demonstrated by a long series of experiments. Briefly the procedure is as follows: Potassium permanganate 200 grammes (6½ ounces) to each 500 cubic centimeters (pint) of formaldehyde is placed in a vessel of considerable size—a 10-quart pail suffices—in the room to be disinfected, which is preferably quite warm. The formaldehyde, 1000 cubic centimeters (2 pints) to each 1000 cubic feet of space, is then poured over the permanganate, and the operator makes a hasty retreat. The room is kept closed for four hours, when disinfection is said to be complete. The simplicity of the above will commend it to any one desirous of fumigating a room after being used by any one suffering from a contagious disease.

The Dust Nuisance.

The coming of the spring months makes pertinent the question why our streets are allowed to accumulate so much

dirt, which in a few warm days is turned into dust. With all the publicity that has been given in regard to dust-borne diseases it would seem that municipal authorities might make a little more effort to abate the dust nuisance. Recently experiments have been made in Vienna as to the best means of suppressing dust. The municipal authorities have ordered seven streets in the suburbs of Vienna to be impregnated by a tar preparation said to fix any dust falling on it, while itself producing hardly any débris by the friction of hoof and wheel, and being nearly noiseless. Should the preparation prove successful all the streets of Vienna are to be covered with it. Those interested in the fight against tuberculosis might do well to bring to bear as much pressure as possible on municipal authorities to have them make at least some effort to suppress the dust nuisance, which is such a menace to public health.

The Treatment of Wounds by Sunlight.

A very interesting use of sunlight as an agent in the healing of wounds has recently been brought forth by a Swiss physician. For some time past Dr. Bernhard, of Samaden, Switzerland, has treated almost all granulating wounds under his charge by exposure to sun and air, for periods of not less than an hour at a time. He makes use of no apparatus whatever. Owing to the height of the sanitarium at which this method is employed the air is pure and rarefied. His reports show that the largest granulating wounds rapidly improve under the combined influence of dry air and sun, discharges are soon arrested, and the wounds become covered with scab. A great variety of wounds have thus far been subjected to this method by Dr. Bernhard, with most excellent results—wounds caused by explosions and crushing, chronic ulcers of the legs and arms, and scrofuloderma. This country affords many localities possessing pure and rarefied air where doubtless this method of treating wounds could be successfully carried out.

ITEMS AND NOTES.

Dr. G. Frank Lydston was recently elected a Fellow of the London Society of Authors.

Dr. J. George Adami, professor of pathology in McGill University, has been made a Fellow of the Royal Society of England.

Among the successful candidates for seats in the Portuguese Chamber of Deputies at the recent election in Portugal were eleven members of the medical profession.

There were 1134 deaths from influenza in Italy in January, 1904. It is estimated that the mortality from the same cause in January of the present year was three times that number.

The conference of delegates of the International Medical Press Association will be held this year at Bern on April 27 and following days, under the presidency of Professor Cortezo, of Madrid.

Karlsruhe has followed the example of Charlottenburg in establishing a tuberculosis museum. Arrangements are being made by which parties of working people will be enabled to visit the museum from all parts of the country.

At the recent supplementary elections in Italy, Dr. Giovanni Battista Queirolo, professor of clinical medicine in the University of Pisa, obtained a seat in the Chamber of Deputies. Professor Queirolo is one of the leading physicians in Italy.

Prof. A. E. Minchin Jedrell, professor of zoölogy in University College, London, has undertaken to conduct—on the spot—further investigations, under the auspices of the Royal Society's Committee, into the causation of sleeping sickness in the Uganda Protectorate.

The eleventh annual meeting of the American Laryngological, Rhinological, and Otological Society will be held under the presidency of Dr. Frederic C. Cobb, at Boston, Mass., on Monday, Tuesday, and Wednesday, June 5, 6, and 7, 1905. The secretary is Dr. Wendell C. Phillips, 40 West 27th Street, New York.

Professor Chaveau announced, says a medical exchange, in a recent communication to the Parisian Académie des Sciences that radium emanations have the property of destroying the toxicity of serpent venom. Viper and cobra poison, if submitted to the action of radium, is said to lose its virulence after fifty or sixty hours of exposure.

A recent report of the Board of Health for the Philippine Islands shows that there are 3628 lepers now living in the islands. The cases are distributed very unequally among the various provinces. The province of Cebu heads the list with 675 cases; Mindanao comes second with 143. Only one province is wholly free from the disease.

By order of the Surgeon-General of the U. S. Army Medical Department linseed and linseed-meal have been dropped from army medicines, and thus cannot hereafter be obtained. The practice of poulticing is regarded as out-of-date, useless, and dirty; and that any good effects that might belong to the procedure can be just as well secured by simple hot wet compresses.

Professor v. Hansemann has made a post-mortem examination of the body of Adolf v. Menzel, the great German painter, who died of influenza on February 9 at the ripe age of eighty-nine, and this examination has revealed two interesting facts: first, that Menzel, like Helmholtz, was hydrocephalic, and secondly, that he had at one time suffered from tuberculosis, traces of completely healed tuberculosis having been found.

Two bills relative to lepers are now under consideration by the House Committee on Interstate and Foreign Commerce. One bill provides for the establishment of a sanatorium for the care of the 275 persons who are said to be lepers in the United States, the institution to be situated in the arid region of the northwest. The other bill provides for the appropriation of $150,000 for the scientific study of leprosy in Hawaii.

The alcalde of Madrid, who, at least in sanitary matters, is decidedly progressive, has issued an order for the disinfection of churches. This order, which is based on a report from the director of the municipal laboratory, prescribes that all the churches of the Spanish capital are to be swept out daily with sawdust moistened with a solution of copper sulphate. All the fittings and furniture of the churches—chairs, benches, confessional, holy water fonts, etc.—are to be disinfected every day.

THE widow of a French naval officer, according to the *Journal of the American Medical Association,* has appealed to the government for a pension, asserting that her husband's two years of duty on submarine boats had been the cause of his death. Her petition stated that the conditions of life on a submarine boat entailed endemic affections, and her husband succumbed to rheumatic endocarditis, which she attributed to this cause. The courts decided in favor of the assumption of endemic affections on submarine boats, and awarded her the desired pension.

A MOVEMENT is on foot to establish a medical school in Singapore. The Hon. Tan Jick Kim, a well known Chinese gentleman, is interesting himself greatly in the matter, and is trying to raise the sum of $71,000 from Chinese and other natives in the Straits Settlements, Federated Malay States, and adjoining countries. Should he be successful in raising the amount, the government is prepared to give up part of the present lunatic asylum building and equip it for teaching purposes. The project so far has met with a fair measure of success, many of the better class of local Chinese being in favor of it. At present students from the Straits who wish to study medicine go as a rule either to India or to Hong-Kong.

THE festal celebration arranged in honor of the one hundred and fiftieth anniversary of the foundation of the University of Moscow, which fell on January 25, was postponed on account of the disturbed state of the political atmosphere. At the beginning of the present year the total number of students was 5489; of these 1349 belonged to the faculty of medicine. The teaching staff comprised 72 ordinary and 17 extraordinary professors; of the former category 25 and of the latter 9 belonged to the medical faculty. The University of Charkoff completed its first century of existence on January 27, but, as at Moscow, the anniversary was allowed to pass without formal celebration. The number of students is 1486.

CONSUL-GENERAL MASON reports, December 23 and January 2, as follows: According to a calculation by the Berlin Department of Statistics, the number of inhabitants of Berlin at the close of the week ended July 2, 1904, amounted to 1,967,707. Since the beginning of the present year, therefore, the population of Berlin has not increased by more than 12,000, and 32,000 were still lacking to make up the second

million. The expectation was, however, confidently entertained that by the end of the year 1905 Berlin would become a 2,000,000 city. Later it was reported that the second million would probably be complete already in October, and it was even claimed that the 2,000,000 would be attained during the month of August. Other statisticians, it is true, claim that Berlin has already a population of 2,000,000.

The medical profession, as represented by the Colegio Medico of the Province of Madrid, is to take part in the national celebration of the tercentenary of the publication of Don Quixote, which will take place in May next. On a day in that month, to be decided upon later, the Colegio will hold a solemn sitting in the amphitheater of the university, under the presidency of the Prime Minister. The programme includes an address by Professor Calleja, president of the Colegio, and discourses by Senor Salillas on the ingenious hidalgo; by Dr. Cajal on the psychology of Quixote and quixotism; by Dr. Oloriz on his physical anthropometry; by Dr. Gomez Ocana on the hygienic habits of the Spaniard in the seventeenth century; by Senor Lazaro on Spanish botany in the seventeenth century; by Dr. Pulido on the expulsion of the Moors; and by the Premier on the aptitude of Sancho for the post of governor on the island of Barataria.

Says an exchange: In the three months of July, August, and September of last year the railroads of this country did damage to life and limb which the Interstate Commerce Commission, in its report for that quarter just published, describes as "the most disastrous on record." The number of employees killed was 756, a slight falling off from the previous quarter, but the railroads killed 228 passengers in train accidents in that period. Not fewer than 217 persons were killed in six of the train accidents of the summer quarter of 1904. The worst accident was one in which 88 persons met death. In the quarter the total of derailments and collisions reached the number of 2760, and the damage to cars, engines, etc., mounted up to $2,439,073. When accidents due to all causes with which the railroads are concerned are included, such as a person falling while getting on or off trains, employees being hurt while coupling or uncoupling cars, etc., the total number of casualties reaches 14,239, of which 1032 had fatal endings, and 13,207 represented injuries of more or less severity.

NEW PUBLICATIONS.

STUDIES IN THE PSYCHOLOGY OF SEX.

The aim of the present volume of these studies is an interesting one, in that it is an attempt to refute the Darwinian doctrine of esthetic preferences through which it was conceived natural selection operated. "Love springs up as a response to a number of stimuli to tumescence, the object that most adequately arouses tumescence being that which evokes love." It is needless to say that those interested in the psychological aspects of sexual selection will find Mr. Ellis's new volume full of interest.

Studies in the Psychology of Sex—Sexual Selection in Man. I, Touch; II, Smell; III, Hearing; IV, Vision. By Havelock Ellis. 6⅛ x 8⅛ inches. Pages XII-270. Extra Cloth, $2.00 net. Sold only by Subscription to Physicians, Lawyers, and Scientists. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

INTESTINAL CATARRH.

This exceedingly interesting volume is written by an English practitioner of wide and extensive experience. It consists of a series of studies of colitis, appendicitis, and allied conditions. The writer has a very happy style, being discoursive and practical. He knows how to impart information, and do it without inducing tedium. The author's experience with hysteronica in various forms of colitis is an additional confirmation of the value of that line of treatment. This work will be read by all with great interest.

The Intestinal Catarrhs. Being a Clinical Study of Colitis, Appendicitis, and Their Allies. By Edward Blake, M.D. Second Edition. W. T. Keener & Co., Chicago; H. J. Glaisher, London.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Treatment of Bunions.

G. R. Plumer (*New York Medical Journal,* March 11, 1905) outlines his treatment of bunions as follows:

He orders what are known as right and left socks or stockings, which have a straight inner edge to the foot and are normally curved around the toes so as to prevent dragging on the great toe. It would be better to use a sock or stocking which has a separate apartment for the great toe, but it cannot be found on the market, whereas the "right and lefts" are on sale in New York.

The inner edge of the sole of the shoe is made perfectly straight, and although the sole is as wide as the foot, the curve of the toe resembles so closely the curve of the normal toes that it is not clumsy in fact or appearance. It has been his experience that it is better to have the toe boxed.

The bunion should be bathed night and morning with a four-per-cent solution of carbolic acid for a few minutes, and this should be followed by a bath of plain water. The carbolic solution is not only antiseptic but a decided analgesic. If, after several weeks' trial of proper foot-gear, the bursa is still distended with fluid and it is necessary to aspirate it, the operation is simple, practically painless, and if antiseptic precautions are practiced a safe one. All the foregoing applies to simple bunion caused by an ill-fitting shoe.

There is a class of cases which have been practically ignored in literature, and the management of them requires no little knowledge of the anatomy of the foot, the gouty and rheumatic diatheses, and physical peculiarities. Many cases of bunion are due to flatfoot, which causes the great toe to turn out, and brings the prominent metatarsophalangeal joint against the side of the shoe. In this case, unless the arch of the foot is restored by a plate, the treatment for simple bunion would fail. In the case of enlarged joints from gouty or rheumatic inflammation, these constitutional diseases would have to be overcome by internal treatment and hygienic living, otherwise the local treatment would not succeed. Four of the five tendons attached to the

great toe tend to drag the toe outward, and the question of their abnormal contraction must be taken into account.

Whenever possible, no operation should be performed on the metatarsophalangeal joint without an x-ray picture being taken as a guide, and in that the sesamoids must not be mistaken for exostoses. As the deformity is often the result of a simple dislocation, the tripod of the foot should be respected and restoration secured by removing wedges from the metatarsus or phalanx, or both, and tenotomy.

Hemorrhoids in Children.

D. Comby (*Annals of Gynecology and Pediatry*, February, 1905) maintains that this condition is not as rare in children as has been thought. It may appear at birth or shortly after. It may become manifest by hemorrhages from the anus. The child in the stool passes pure or clotted blood without pain or tenesmus. Moreover, these internal hemorrhoids may give no outward evidence, but only appear to rectal touch, during puberty or adult life.

External hemorrhoids often appear early, and are characteristically flabby masses, partly reducible, usually indolent, of violet color, surrounding the anus. Rarely are they large masses, though they may become so later.

Prognosis is not bad. Often they cause little trouble. During the intervals there may be much pain, and one may be kept in bed several days.

Spontaneous cure does not occur. It persists to adult life, and then often requires surgical treatment. Palliative treatment is found in cold-water bathing, suppositories of rhatany, or painting with a solution of adrenalin chloride 1:1000.

Amputation Suggestions.

In a recent issue of the *Harvard Medical Bulletin* J. B. Murphy offers the following hints on amputations of the lower extremities: Anterior and posterior muscle flaps when obtainable are to be preferred to the circular cuff of skin. The fibula should be cut off at a higher level than the tibia in leg amputations, and care should be taken to bevel off bony prominences, such as the sharp anterior tibial edge. Suture of the periosteum and approximation of the muscles and fasciæ are desirable. Drainage of the stump is advised unless the dead space is obliterated by means of buried sutures. Partial amputations of the

foot or amputations at the ankle-joint, except under unusual conditions, are not as satisfactory as those above the ankle-joint. Tibial stumps between six and eight inches long are the most serviceable. Amputations through the knee-joint are inferior to those just above the condyles. The longer the thigh stump the better, provided the condyles have been removed. In general, in tibial amputations down to four inches and in thigh amputations down to five inches, sacrifice bone in order to obtain good muscle flaps.

Primary Carcinoma of the Lingual Tonsil.

J. Yankauer (*Laryngoscope,* February, 1905) reports a case in a man sixty-two years old. An ulcerated tumor had existed for three months in the region of the left lingual tonsil; there were present infiltration of the epiglottis and left posticus paralysis. The submaxillary glands were enlarged. Pain, dysphagia, and salivation were marked. There were frequent hemorrhages from the tumor. In spite of the fact that the patient had had syphilis thirty years before, and that the location of the tumor was in favor of the diagnosis of gumma, the author considered the diagnosis of carcinoma justifiable for the following reasons: the age of the patient, the appearance of the tumor, the cachexia, the involvement of the submaxillary glands, and especially the frequent hemorrhages. The syphilis had been treated energetically at the time of its occurrence, and the administration of large doses of mercury and iodides had no effect upon the tumor. Tuberculosis was considered excluded. No microscopic examination of the tumor was made.

Rectal Anesthesia.

A. Krongeline (*British Medical Journal,* Feb. 25, 1905) recommends rectal anesthesia by ether vapor in cases of operation on the head and neck especially. The ether flask is placed in water at 40° C., and connected with a rectal tube supplied with a receiver to collect the condensed liquid ether. In two or three minutes the patient's breath smells of ether, and soon afterward anesthesia is induced. If this is not sufficiently deep a few whiffs of chloroform may be inhaled. The advantages of rectal anesthesia are rapidity and freedom from the inconveniences of inhalation. In the author's cases the duration of anesthesia varied from thirteen minutes to one hour fifty-four minutes, and the amount of ether used from 20 to 120 cubic centimeters.

MEDICINE.

Diphtheria Antitoxin and its Relation to Toxin.

S. Peck and D. Schwoner (*British Medical Journal,* March 4, 1905) remark that hitherto, in most of the investigations recorded upon the inter-relationship of diphtheria toxin and antitoxin, the main stress has been laid upon the composition of the toxin, with the implied assumption that the value of the antitoxin was constant. But owing to the greater physical and chemical complexity of antitoxin as compared with toxin, the authors have felt that this assumption could not be taken for granted; they have therefore instituted a research with the object of discovering whether different immune serums did not exhibit differences on being saturated with one and the same toxin. As the result of their investigations they find that on fractional saturation of different diphtheria immune serums with one and the same toxin, saturation will in some cases be strictly proportional to the amount of the toxin added (toxostable antitoxin), whereas in others it will be disproportionate (toxolabile antitoxin), and that accordingly in the one case the progress of saturation is graphically represented by a straight line, in the other case by a curve. This difference in the mode of saturation is independent of the constitution of the toxin, but is determined by the properties of the immune serums. But after partial saturation with toxin, toxolabile-immune serums yield toxostable antitoxin.

Celiac Parotitis.

A. Dyball (*Annals of Surgery,* December, 1904) in discussing the causation of parotitis following injury or disease of the abdominal and pelvic viscera opposes the pyemic theory, the oral sepsis theory, and the reflex nervous theory, none of which he holds affords a satisfactory explanation of all the cases. He thinks it appears most probable that this variety of parotitis is due to the action on the gland of toxic substances absorbed into the blood and derived from (*a*) the secretions of certain organs modified by injury or disease; (*b*) toxins of microbic origin absorbed either from the alimentary canal, peritoneal cavity, or bladder, and products of deranged digestion. In any given case of injury or disease of the abdominal or pelvic viscera the occurrence or not of parotitis will therefore depend on the presence

and the absorption in sufficient quantity of some of these various toxic agents. Suppuration, it is pointed out, is not an essential feature of celiac parotitis, but is due to the fact that the parotid gland, when inflamed by the action of these toxic agents, offers lessened resistance to infection by pyogenic organisms reaching it by the blood stream or by Stenson's duct.

Medical Aspects of Gastroduodenal Ulcers.

L. A. Levison (*Cincinnati Lancet-Clinic*, March 4, 1905) says that gastroduodenal ulcers are much more commonly diagnosed now than a few years ago. A larger percentage of ulcers and scars are found post-mortem than ante-mortem.

The etiology is still an unsettled matter.

Chronic ulcers are not simply a late stage of the acute forms, but probably have a different pathogenesis.

Vomiting, pain, and hematemesis are the most common symptoms. The value of hyperchlorhydria as a diagnostic sign has been lessened in recent years.

The correction of the anemia is an essential part of the treatment of the acute cases.

Surgical intervention should follow a fair trial of medical methods.

Surgical intervention is sometimes associated with serious after-effects, as the occurrence of peptic ulcers in the jejunum.

A Curious Case of Vicarious Activity.

S. Rubenstein (*Deutsche med. Wochenschrift*, No. 31, 1904) classes his patient with Laura Bridgman and Helen Keller on account of the remarkable way in which she overcame her natural infirmities. The patient, Selma Kunz, was born in Wertheim in 1880, and was of unusual intelligence. At the age of six she suffered from an attack of meningitis, which was followed by complete paralysis. The lips and tongue were the only motile organs over which she possessed control. She learned to feed herself holding the spoon or fork in her lips and tongue; also to sew with lips and tongue, turn over the leaves of a book, write, knit, and do fancy work; and she could even cut out dolls' clothes, holding the scissors in her lips and tongue. She died at the age of twenty years. Her body was that of a poorly nourished child, whilst her head was of a size corresponding to her age.

Gigantism and Goitre.

At a recent meeting of the Paris Neurological Society M. G. Ballett (*Lancet*, Feb. 25, 1905) reported the case of a young woman aged nineteen years who was manifestly the subject of gigantism, but who in addition showed all the classical symptoms of exophthalmic goitre. The hypothesis of connecting the relation which exists between gigantism and exophthalmic goitre to hyperthyroidization is a natural one in this case. It is well known that ablation of the thyroid body with consequent hypothyroidization brings about arrest of the development of the skeleton, and it is therefore rational to suppose that hyperthyroidization would produce the opposite effect. But in that case the association of gigantism with exophthalmic goitre should be frequent, at least in young subjects, which, however, is not the case. It would be more logical to suppose in the case cited by Mr. Ballet that there coexisted a double lesion of the thyroid body and of the pituitary body.

Acute Lymphatic Leukemia.

Thomas McCrae (*British Medical Journal*, Feb. 25, 1905) says that in the majority of cases of acute leukemia there is a rapid destruction of the red cells with the blood features of a severe primary anemia. The essential changes in acute leukemia are in the bone-marrow. Certain cases seem to justify the term "leukanemia," suggested by Leube. In the study of future cases more attention should be paid to the changes in the red cells and the probable similarity to pernicious anemia definitely decided. The clinical features of acute leukemia suggest its being an acute infection, and perhaps a distinct disease from chronic leukemia.

The Relation of Human to Bovine Tuberculosis.

David Bovaird (*Medical Record*, Feb. 25, 1905) says that human tuberculosis can be transmitted to cattle, but with difficulty, and it seems highly improbable that such transmission plays any great part in the production of the disease among cattle. Bovine tuberculosis can be transmitted to man, but the evidence that such transmission occurs under ordinary circumstances is extremely scanty, and it is highly improbable that such transmission plays any important part in the spread of the disease in man.

THERAPEUTICS.

Digestion of Casein, and its Relation to Certain Problems in Infant Feeding.

T. S. Southworth (*Medical Record,* March 4, 1905) says that the nature of casein digestion is an important feature in the management of artificially fed infants that has not received the consideration it deserves. Hammersten's erroneous conclusions have been copied and accepted without question by so many authors that it is only recently it has been shown that much of the teaching of the past requires recasting. The ferment first formed in the stomach of the young is the rennet ferment, which changes casein into paracasein. At first this is digested in the intestine, but as hydrochloric acid begins to be secreted this combines with the paracasein, forming hydrochloride of casein, which is fitted for peptic digestion. The greater the amount of acid present, the tougher will be the curd; but at the same time more pepsin is secreted, so that as the infant develops the work performed by the stomach is regulated automatically. An excess of acid causes the formation of a less digestible dihydrochloride of paracasein; but if the acid is so abundant that some of it is uncombined or free the new substance is readily digested. The presence of lactic acid in sour milk may greatly modify the digestive processes in the infant's stomach, and this question as well as the rationale of adding alkalies to food mixtures is discussed in detail by the author.

Brewer's Yeast in the Treatment of Typhoid Fever.

At a recent meeting of the Paris Medico-Chirurgical Society M. Hirtzmann (*Lancet,* Feb. 18, 1905) gave details of three severe cases of typhoid fever occurring in adults. The symptoms included dryness of the tongue, diarrhea, and other conditions usually found in typhoid fever; the temperature rose to and remained at 40° C. (104° F.) for some time. In addition to small amounts of sulphate of quinine he gave to all three patients 60 grammes (two ounces) of brewer's yeast daily in three doses. This treatment was commenced about the seventh day of the illness. After the taking of the yeast the temperature fell to 38° C., not subsequently rising above 39°; the gastrointestinal symptoms improved, the tongue was no longer dry and coated, the

diarrhea disappeared, and the pyrexial stage terminated about the twenty-first day. M. Hirtzmann believed that the yeast acted as an antiseptic. He employed either Karcher's or Grueber's fresh yeast, the latter being preferable, as it was almost liquid. In those cases the typhoid fever was unquestionably water-borne, for the well supplying the house of one of the patients had been evidently contaminated by fecal matter from a house which stood at a higher level, and in which there had been some time previously a case of typhoid fever.

The Use of Extract of Dichondra as a Bactericide in Diphtheria.

M. Aramian (*Medical Record*, March 11, 1905) describes the results obtained in treating diphtheria by local applications of extract of dichondra in glycerin. The preparation is obtained from the seeds and stems of *Dichondra brevifolia*, and to a solution containing one part of the extract in three parts of glycerin the author gives the name antidiphtherin. Numerous species of dichondra grow in this country, and it is probable that their properties are similar to those of *Dichondra brevifolia*. Applied to the affected mucous membranes, not less than four times daily, the preparation exerts a bactericidal action which is specific for the Klebs-Loeffler bacillus and rapidly exterminates it, though the effect is only local, and the toxin already formed is not neutralized. When used in conjunction with antitoxin, which does not affect the bacilli, though it renders their products inert, antidiphtherin shortens the illness and effects a cure in a period of time never exceeding seven days and usually of only two or three days. Illustrative cases and statistics are quoted to show that the disease is best treated by the combined use of dichondra and antitoxin.

The Action of Sodium Cinnamate.

Cathcart and Charteris (*Journal of Pathology and Bacteriology*, November, 1904) have investigated the action of sodium cinnamate by means of intravenous inoculation into rabbits. This drug is supposed to be useful in the early stages of phthisis on the ground that it produces a temporary leucocytosis, causes the tuberculous nodules to be surrounded with a zone of leucocytes, leads to their vascularization, and finally to their resolution into connective tissue. The rabbits experimented upon received daily for a fortnight 20 minims of a five-per-cent solution. They

remained in good health, ate well, and put on weight. Daily blood counts were made, and the tissues were examined at the end of the experiment. It was found that the drug produced a slight permanent increase in the number of leucocytes circulating in the peripheral blood. This increase was almost wholly due to the mononuclear elements, the polymorphonuclear cells being relatively diminished in number. No definite changes were produced in the marrow, but there were slight changes in the spleen, pointing to stimulation of that organ.

Radium in the Treatment of Skin Diseases.

At a recent meeting of the Paris Medical Society M. Danlas (*Lancet,* March 4, 1905) said that in his experience radium was of value in only three kinds of skin disease, namely, tuberculous leprosy, a form of epithelioma (epithelioma perle), and vascular nevus. He added that radium is of value in these diseases only in cases where they exist in a very limited form. Moreover, it is not superior to older methods of treatment. When the lesions in which it is of use are widely spread the *x*-rays give better results, and radium possesses merely a provisional superiority for use in cavities such as those of the nose or the larynx, which are difficult to reach with the *x*-rays. If, however, radium were to become cheaper it would probably be preferred to the *x*-rays, for its application is much simpler, and practically no apparatus is required. But until such a desirable condition is a reality it may be said that the future is with radium and the present with the *x*-rays.

Intravenous Injection of Oxygen.

A. Neudorfer (*Wiener klin. Wochenschrift,* xviii, No. 4) reports from Gersuny's clinic a case of revival of a moribund patient by the intravenous injection of oxygen. The case was one of cystic goitre, complicated by bronchitis and catarrhal pneumonia, and asphyxia persisted even after tracheotomy. During the recurrent attacks of cyanosis and dyspnea, oxygen was injected into a vein by Gaertner's method. Each time the patient rallied, recovered consciousness, and experienced relief. The symptoms of suffocation disappeared after the second injection, but the patient eventually died from pulmonary edema and cardiac weakness. The author remarks on the absolute harmlessness of the method which was demonstrated by this experience.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Loss of Sight from Disuse of the Eye (Amblyopia Exanopsia).

D. B. St. John Roosa (*Medical Record,* Feb. 25, 1905) believes that the term amblyopia exanopsia should be limited to those cases in which the use of the eye has been given up because to use it involves double vision, the maculæ luteæ being no longer in exactly corresponding positions, as is the case in any form of strabismus. Amblyopia due to obscuration of the media does not belong in this category. The case reported illustrates the fact that amblyopia in the deviating eye in strabismus is functional and not organic, and that it may be recovered from perfectly. The patient was a man of forty-six, whose right eye was amblyopic owing to suppression of the image accompanying divergent strabismus following overcorrection of a convergent strabismus. Five years ago the left eye, on which he was dependent for vision, was put out of function by an accident. Vision in the right eye was at this time 20/200 with a cylindric glass of 4 D., but with suitable correction and practice in the course of five years he gradully regained the function of the organ, until now his vision with the formerly amblyopic eye is 20/30 with an appropriate glass. The vision for fine type improved much more quickly than that for distance.

Ear Complications of Scarlet Fever and Their Treatment.

Herman Jarecky (*Medical Record,* Feb. 25, 1905) says he wishes to emphasize the necessity of paying attention to the removal of hypertrophied tonsils, adenoid vegetations, and nasal obstructions in all of our little patients, so that when subjected to the strain of scarlet fever they may avoid the principal method of ear infection. Owing to the rapidity with which destruction of aural tissue and extension of infection takes place in this disease, as soon as the tympanum shows signs of exudation and the membrane of bulging a paracentesis should be immediately performed. Repeated examinations of the ear, especially in infants and children, should be made on account of the uncertainty of the symptoms.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

A Case of Lupus Erythematosus with Erythema Induratum.

D. Polland (*British Journal of Dermatology,* February, 1905) reports the following case:

The patient was a women aged forty-nine years, who had no family history of tuberculosis as regards her parents, but who had lost two sisters from lung disease. The present illness began five years before with the appearance of slight red spots on the face, which resembled insect-bites. Soon after tumors from the size of a pea to that of a hazelnut appeared on the arms and legs, and after persisting for some months disappeared. The condition of the face also improved, the patches disappearing, with the exception of a slight atrophy, which was left behind. The condition then relapsed, and all the symptoms reappeared, so that when she was seen she had typical lupus erythematosus of a mild type on the face, and on the legs, where there was a slight degree of varix, there were some nodules of distinct outline lying in the deeper layers of the skin, of a bluish-red color, and slightly tender on pressure. In no case was there any tendency to softening or rupture. A histological examination showed a fibrinous exudation, but nowhere typical epithelioid or giant cells. On the other hand, a large vein which lay in the part excised showed itself completely thrombosed, and filled with leucocytes. References to some of the literature are given.

Acne and its Treatment.

G. T. Jackson (*Medical Record,* March 18, 1905) says that acne is even commoner than eczema, and that while it is true that the disease is often stubborn, the majority of cases can be greatly benefited in a short time and very many of them cured promptly. The indications for treatment is as follows: (1) Improve the condition of the skin, so that it will no longer be a suitable culture ground for the bacillus. (2) Empty the follicles of the skin of the colonies of bacilli. (3) Keep the skin constantly aseptic, so that any bacilli that escape on it will be killed and no new infection of the skin will be possible. The first indi-

cation is met by attention to the patient's general health by means of baths, diet, exercise, attention to hygiene, and lastly drugs. The follicles are emptied by the use of the curette, the acne lancet, and the comedo expressor. The best local application is sulphur, preferably in the form of the old lotio alba, the formula for which is: Zinc sulphate and potassium sulphuret, of each ʒi-ij; rose water, q. s. ad ʒiv. This is to be shaken up before using. Resorcin is also useful, as well as sulphur soap. The use of the *x*-ray should be limited to intractable cases, and requires great caution to prevent doing harm.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Eclampsia.

A. Allen (*American Journal of Obstetrics*, February, 1905) offers the following conclusions: (1) Eclampsia is due to a toxin which probably has its origin in the liver. (2) Its origin is maternal rather than fetal. (3) Premonitory symptoms are always present. (4) The most constant and important premonitory symptom is frontal headache. (5) The diagnosis of toxemia of pregnancy should be made early, and this can generally be done if the patient is under observation. (6) The mortality should not exceed 20 per cent. (7) The premonitory symptoms should be treated until they are proved ineffective. The uterus should then be emptied, and this may be the only way to stop the progress of the disease. (8) Delivery should be accomplished as rapidly as is consistent with cleanliness and the integrity of the soft parts. From 300 to 700 cubic centimeters of blood should be drawn, and then 500 to 1000 cubic centimeters of salt solution should be infused, according to the quantity of blood withdrawn and the character of the pulse. It may be necessary to repeat this operation. Morphine, ¼ grain, may be given to relax the muscular system, and croton oil, 1 to 2 drops in olive oil 1 to 2 drachms, followed by magnesium sulphate half an ounce in saturated solution, until free purging has resulted. (9) The diet should be limited to milk and water. (10) Other symptoms should be treated as they arise.

Prognosis of Ovarian Cystic Tumors.

D. Barnsby (*British Medical Journal,* Feb. 25, 1905) has published notes on 32 cases of cystoepithelioma of the ovary, the common ovarian cyst. Clinically, half were diagnosed as innocent and half malignant, but sections were made from every tumor removed by the author, and carcinomatous degeneration was detected in 18, so that only 14 were benign or "simple mucoid epitheliomas." Thus, histologically the percentage of malignancy is 56.25, far above that recorded by other operators. Turning to results, 31 recovered from the operation and 1 died, 8 patients were alive and well over four years after ovariotomy, 17 alive and well within four years, and 6 showed signs of recurrence—the cyst had ruptured spontaneously or burst during extraction. He considers therefore that all suspicious cysts should be removed entirely as though solid without tapping. Potocki and Beuder (*ib.*) reported a very distinct case of sarcomatous degeneration of an ovarian cyst; the patient recovered from the operation, but no after history was given. They referred to other cases, and quoted some where carcinomatous and sarcomatous degeneration were detected in different parts of the same cyst, whilst in Simoff's cases there were metastases of each class, sarcomatous on the peritoneum, cancerous in the liver. The prognosis of the most innocent looking ovarian cyst is, as these records show, a question about which we must not be too optimistic.

Symptomatology and Diagnosis of Glénard's Disease.

A. E. Gallant (*International Clinics,* vol. iv, 1905) makes the following clinical classification: (1) Developmental, which can be most frequently accounted for on the following grounds: At puberty, when the girl is rapidly increasing in stature, and her menses begin to drain the system, all healthful exercise is interdicted, and her clothing is hung from the waist by tightly drawn bands; she is compressed within a corset, and light, short skirts are exchanged for long, heavy, trailing dresses. As the spinal column lengthens it should carry upward all the viscera attached thereto, but owing to compression at the waist line and the weight of clothing this cannot take place; stretching of the ligaments occurs, and the viscera are distorted and hang at a much lower level than normal. (2) Postpartum type, due to overdistention of the abdominal cavity by the pregnant uterus. (3) Postopera-

tive type, occurring after operation for the removal of a tumor encroaching on the abdominal cavity. (4) Traumatic type, following a blow on the kidney region, sitting down suddenly, or some unusual effort. (5) Nutritional type, as sequelæ of confinement to bed for a long time by an injury or a lingering disease, involving a great loss of weight and muscular tone.

Influence of the X-ray on the Ovary.

L. Halberstaeder (*Berliner klinische Wochenschrift*, xlii, No. 3, 1905) exposed the ovary on one side in young rabbits to the *x*-rays, and found that in every case the growth of the exposed ovary was checked. When the rabbits were killed later it was found that the exposed ovary was from one-half to one-third smaller than that on the other side. The author finds that the ovaries are much more sensitive than the skin to the *x*-rays, and urges that this be borne in mind in *x*-ray exposures of the abdomen. Female workers in *x*-ray laboratories should be protected from injury from this source. The testicles are less sensitive than the ovaries.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
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Cerebral Hemorrhage; Operation; Recovery.

In the September, 1904, number of the *American Journal of the Medical Sciences*, Wm. C. Krauss, of Buffalo, reports a most interesting case of injury, resulting from a fall from a street-car in motion. The patient at the time belittled his injury and said he was all right, although presenting the following appearance: Right eye greatly swollen and discolored; the upper eyelid much protruded; conjunctiva greatly ecchymosed and overlapping the cornea; eye practically closed; right shoulder bruised and discolored. He complained of much pain over the back of the head. The following day he vomited some, and the succeeding day he would begin a sentence intelligibly and then lapse into unintelligible jabbering. He later became more or less unmanageable, and then seemed to lose intelligible speech, until it was decided to take him to the hospital for operation, when, on seeing the ambulance

before the house, he spoke once or twice with great clearness. Facial epilepsy of the right side with twitching of the right hand and arm were the immediate symptoms which determined operation. It is to be noted that although the direct injury was sustained to the right side, the symptoms were those of lesion on the left, indicating injury by contrecoup. Trephining over the left side was very successful. A clot was found with a very small loss of the calvarium, and easily removed. The wound was kept entirely aseptic; healing was prompt; and the patient regained practically perfect health within a few weeks. The case seems to have been most successfully managed, and the result is certainly encouraging to the careful study of intracranial traumatism and prompt action when operation is indicated.

Some Minor or Border-line Psychoses of Alcoholism.

In the *Journal of the American Medical Association* of March 18, 1905, F. P. Norbury reaches the following conclusions in regard to some minor or border-line psychoses of alcoholism:

Treatment is successful in the majority of cases where the individual coöperates and learns his limitations. From a study of several hundred cases of minor psychoses of alcoholism, including the "polyneuritic psychoses," marked by amnesia, paramnesia, and confusion with marked hallucinations, the author is led to the following conclusions regarding these mental disorders:

1. They are rare in acute alcoholism, but may appear in adolescents of neurotic type.

2. They are more frequent after adolescence and up to forty or forty-five years of age.

3. They occur both in continuous drinkers and in periodic delinquents.

4. The prognosis is variable, depending on inherited frailties and moral developments.

5. Early treatment is advisable as a preventive of major psychoses.

6. Treatment is successful in the majority of cases, providing we have the earnest coöperation of the patients and can have them under our immediate care for a protracted period.

7. Such cases should be distinguished from ordinary chronic alcoholics, and should be treated from the standpoint of mental disease.

THE MEDICAL AGE

VOL. XXIII. DETROIT, APRIL 25, 1905. No. 8.

ORIGINAL CONTRIBUTIONS.

THE STOMACH AS A PROBLEM IN MEDICINE.

BY J. H. MORRIS, M.D., PHILADELPHIA, PA.

So long as nature works efficiently the stomach is promptly and thoroughly cleared of ingesta, and the supplementary agencies of the pancreatic and intestinal juices complete the process, and the stomach being cleared cannot become the seat of those secondary fermentative changes which, when they happen, are fraught with so much danger and discomfort, which are apt to occur from the constant presence of numerous ferment-working microörganisms in the food and the buccal secretions. Want of tone in the muscular wall of the stomach is, therefore, a very important and early factor in stomach derangement; as Meinert, of Dresden, has shown, such atony exists very commonly in various debilitated states, anemia, etc., proving the starting-point for many digestive troubles. When the food lies too long in the stomach, so that fermentations can take place, fat is split up to form butyric acid, dextrose is converted into acetic acid, and these abnormal substances irritate the mucous lining and cause more or less catarrhal inflammation; gases are given off, causing distention, and eructations of gas and acid fluid. A brisk aperient will clear out the stomach and remove these symptoms, but if the condition recurs frequently the stomach becomes irritable, articles of food hitherto well borne become injurious, and must be eliminated temporarily from the diet. Gastric catarrh is determined easily, but whether it results in this way or as a consequence of acute diseases, or from the abuse of alcohol or tobacco, or from catching cold, the irritated gastric mucous membrane requires to be guarded for a longer or shorter period from such agents as may increase its trouble.

Introduce into the stomach food in sufficient quantity to

supply the needs of the body, but so far limited in amount as not to tax the enfeebled muscular wall, while it must be free from substances which can act as irritants from their physical state, such as hardness or angularity, their pungency, or their proneness to undergo fermentative decomposition and give rise to acrid products. This food should be soft, bland, and contain little fat, starch, and sugar; to be soft it must be well cooked and finely divided, either by the teeth or otherwise; to be bland it must be free from condiments and unmixed with alcohol, unless in a very diluted form. Acute gastric catarrh is characterized by loss of appetite, a coated tongue, foul breath, pain after food, sour eructations, flatulence, and vomiting; if the intestine is involved there is diarrhea, but usually the bowels are constipated. The most rational method is abstinence from all food for twenty-four hours; but as this advice is not always acceptable, give a teaspoonful of some good extract of meat dissolved in a teacupful of hot water, and a little piece of very dry toast every four hours, or a little beef jelly, or a little milk diluted with a third part of lime water. This rest for the stomach, combined with a blue pill, a saline aperient, and bismuth mixture, is sufficient. Eels, mackerel, and salmon are inadmissible on account of the fat they contain, and the fish must not be fried because it would then be partly soaked in fat; for condiment a little lemon may be squeezed over it. As a sweet, a cold baked custard or calf's-foot jelly, without wine, while aerated mineral water, with a dash of claret or a slice of lemon in it, is an excellent drink; boiled chicken or a boiled or stewed mutton chop free from fat may be given. If tea is begged for and things are going well it may be allowed, but infused with milk instead of water. As convalescence becomes established, a little well mashed or baked potato may be taken with the meat, and a little butter with the dry toast.

In chronic gastric catarrh the principles are much the same, but such definite rules cannot be followed. Avoid all condiments, such as peppers, spices, sauces, vinegar, and pickles; salads, and all uncooked or badly cooked fruit and vegetables, and all containing skins, seeds, and fibers; mushrooms, onions, carrots, parsnips, turnips, gooseberries, raspberries, and currents; brown bread and oatmeal porridge; fat, including butter; fat meats, such as pork and veal; oily fish, such as eels, mackerel, and salmon; fat poultry, such as duck and goose; strong tea; strong wines and spirits; malt liquors; much sugar or preserves; all bread should be well toasted, and starchy and farinaceous food

should be eaten very sparingly. Avoid fruit and vegetables except such as are soft and are well cooked. Any alcohol should be well diluted, and should never be taken on an empty stomach. As dilatation of the stomach is often associated with catarrh, what has been already said applies with equal force here; the meals must be small in quantity and sufficiently frequent to permit the necessary amount of food to be taken; at least five meals daily, each not to exceed five or six ounces. If there is any pyloric obstruction, the greatest care should be exercised to avoid introducing into the stomach lumps of solid food. Very little liquid should be taken with the meals, but a sufficient quantity may be drunk between the times of eating. Milk and meat in the form of dry powder, which can now be obtained, can be made into a thick gruel, and may be useful. The value of saline aperients in dilated stomach should not be overlooked. Should diagnosis of ulcer of the stomach be made following hematemesis, then it is advisable to stop all food by the mouth and feed per rectum; a nutrient enema should consist of one egg beaten up and sufficient milk to make four ounces, given every four hours; if required, a drachm of brandy may be added. Do not continue the practice of rectal feeding for many days after the hematemesis has stopped, and blood is no longer to be seen in the stools. Gastric ulcer is so closely dependent upon anemia, and the indication to improve the general nutrition is so clearly imperative, that it is advisable in a few days to begin with iced milk, one ounce every hour; if this is tolerated, two ounces may be given every two hours; then in succession, soft bread and milk, minced chicken, and minced mutton. This diet should always be accompanied by the exhibition of some form of iron and sulphate of magnesia or other aperient, the latter in sufficient doses to move the bowels.

In neuroses of the stomach, on the contrary, no special dietary is needed; rather, as a rule, it is necessary to discourage the patient's tendency to diet himself, under the supposition that his troubles are due to indigestion; here rest to mind and body is the great means of cure. If vomiting or anorexia exists rest in bed becomes essential, and the diet must be at first confined to an ounce, or even half an ounce, of milk every hour or half hour. But this scanty fare should be increased as rapidly as possible, though it is better to proceed by stages as recommended in ulcer of the stomach.

Should dyspeptics drink tea? This is a question which is generally answered by the medical profession in the negative,

but the advice so conveyed is not always accepted. There is no reason for laying down a hard and fast rule on this point; it is only necessary to forbid tea during an acute attack. Afterwards it may be allowed in moderation, if its use is not followed by any obvious bad results. Where these occur it is worth while to try infusing it with milk. The preferable form of alcohol is light wine, diluted with water or mineral water. Malt liquors are not often tolerated, and spirits are very liable to do mischief; in fact, it is to be greatly regretted that spirits are so often taken on medical advice as the safest drink for dyspepsia. Bear in mind the dictum of Prout: "Any stomach may digest a little of anything; but no stomach can digest a great deal of anything."

The capacity of the stomach in different individuals does not show enormous variations; these conclusions were reached without due regard to the questions of internal pressure and power of contraction, and without relation to the size of the individual; a nursing child has a smaller stomach than the artificially fed, and the capacity of the normal stomach is relatively smaller than that of the diseased. The capacity bears relation to the size of the pyloric opening; when the latter is narrow there is a greater stomach capacity, and when wide the stomach is relatively small. Serious objection has been raised to the umbilicus as the landmark in describing the location of the stomach. The drawing of a series of lines as a guide is better: one of these crosses the abdomen, connecting the tips of the tenth rib, the second connecting the highest points of the iliac crests, and the third the anterior superior spines of the ilium. Rosenfeld found that two-thirds of the lesser curvature of the stomach occupies a vertical position, or even slanted slightly to the left. The remaining portion is directed horizontally to the right or slightly upward, thus making the stomach vertical as regards the cardiac portion and horizontal in the pyloric portion; when the stomach is moderately full it rotates more to the front. Rosenfeld regards gastroptosis as evidence of the presence of dilatation; the enlargement may take place either in the vertical or horizontal direction, or there may be a third form, with dilatation in both directions. He has reached his conclusions by means of the *x*-ray, the shadow being produced by a sound filled with shot introduced into the stomach. The shape and position of the stomach has been determined by means of the phonendoscope, substantiating the statements of Rosenfeld. The lower border of the stomach is lower down in direct proportion to the weight of the food taken as well as to the resistance of the walls and the

supports of the stomach. The stomach changes its position considerably, according to its functional activity and the nature of its contents. Lateral displacements are of little consequence; upward displacement may occur in diaphragmatic hernia. All cases in which the lesser curvature can be demonstrated below the free border of the liver are to be regarded as instances of gastroptosis. Stretching of the gastrosplenic and hepatic ligaments leads to the descent of the pyloric part and the lesser curvature of the organ. Therefore, in gastroptosis the stomach occupies a relatively vertical position. In a total number of seventy-two cases reported by Bettman, 85 per cent were in females, and occurred irrespective of child-bearing. Meinert believes that 50 per cent of girls at the age of twenty years have dislocated stomachs, while Kuttner and Dyer are quoted as saying that in 100 children they found no gastroptosis; in 100 men 4, and in 100 women 42. The causes of gastroptosis are divided into three classes: (1) conditions that tend to push the stomach downward from above; (2) those that lead to the diminution of intra-abdominal pressure and relaxation of the supporting ligaments; (3) those which lessen the support beneath the stomach and drag it downward. Etiologically there exists hereditary predisposition, and constitutional disability plays an important part. The most common cause is to be found in improper dress, as seen in corsets and especially the bands of skirts. To this another important cause should be added, and that is neglect in the development of the abdominal muscles and improper posture in standing. Emaciation, pregnancy, enlargement of the liver, and overdistention of the abdominal viscera, besides emphysema and other thoracic conditions that lower the diaphragm, all play a part in this displacement.

Hirsch in an elaborate survey of the various cases which have been recorded of stricture of the body of the stomach distinguishes two varieties—one congenital, and the other acquired. The former is most prone to occur in women, many of whom live to an advanced age; the constriction occurs in the center of the organ, and is usually of such a nature that the stomach has the appearance of two pouches connected together by a narrow passage several inches in length. In the majority of cases the mucous membrane of one or both portions of the organ had suffered from some secondary lesion, such as ulceration or cancer. The acquired form of gastric contraction usually arises from the cicatrization of a simple or cancerous ulcer, more rarely from the pressure of fibrous bands in the peritoneum.

Singer describes four cases of human rumination which have come under his notice; he thinks the regurgitation of the food is due to a congenital inefficiency of the cardiac sphincter, which permits the contents of the stomach to pass into the esophagus during inspiratory efforts. In the treatment he recommends that hasty eating and drinking be prohibited, and the patient be advised to prevent the return of the food as far as possible. Medicinal remedies should consist of sedatives and antispasmodics.

Stern shows the possibility of recognizing the position of the stomach by means of the slight shadow seen upon the abdominal wall during the respiratory movement when the stomach is somewhat distended; for this purpose the patient should be placed upon his back, with the light entering nearly on a level with the body from the direction of the head. In instances of marked gastroptosis, Stern was able to make out the smaller curvature as well as the other contours of the stomach. The method possesses some value, but is useless where the abdominal wall is thick and tense. It is necessary to have the stomach partially distended with fluid, besides some gas. The coils of intestine, when distended, may be recognized in the same way. There are few conditions more easily recognized than gastroptosis, in most cases, to one who is skilled in abdominal examinations. The gastrodiaphane and the *x*-ray method, using either a bismuth mixture or the shot-filled stomach-tube, enable us to make the diagnosis more definite, and they are important in exceptional cases that may be recognized by ordinary methods. Inspection of the abdomen after the stomach has been distended with air by means of the stomach-tube and bulb is all that is necessary for a diagnosis generally.

In dilatation of the stomach when percussion is made with a plexímeter over the dilated organ, comparative dulness is often elicited, instead of the usual tympanitic note. If, however, a few seconds be allowed to elapse and the percussion be then repeated, the characteristic reasonance will be obtained. This phenomenon appears to arise from the contraction of the hypertrophied walls of the dilated viscus. The second sign consists of a cracked-pot sound, which can often be obtained in the neighborhood of these temporarily dull areas.

Dujardin-Beaumetz has given us several simple methods for the treatment of cases of dilated stomach: for example, he recommends that the patient should sleep on the right side, in order that the force of gravity may aid the transmission of the food into

the intestine; that a glass of hot water should be taken an hour and a half after each meal, in order to stimulate the muscular tissue of the stomach, and a natural alkaline water shortly before food, to promote the gastric secretion. The amount of fluid taken with the meals should be strictly limited, and the food administered at regular hours. All excess of starchy food should be avoided, and the patient be advised to sip a tumblerful of warm water during the progress of the meal. As wines are apt to ferment, recourse should be had to good whiskey or brandy. Pain during the process of digestion must be combated by alkalies. Sulphate of sodium in 10-grain doses, combined with carbonate of sodium and nux vomica, is the most reliable means of preventing decomposition of the food, but occasionally carbolic acid, creosote, or sulphocarbolate of sodium are more effective.

In cases of dilated stomach from benign stenosis of the pylorus, Ogston recommends a novel method for the cure of the stricture. He has contrived a series of gutta-percha spheres, graduated according to the scale of the French urethral bougies. Commencing with the smallest, he administers it to the patient immediately after breakfast, and then allows him to pursue his usual avocation. Day by day the size of the sphere is increased, until at length the appearance of cramping pain in the region of the pylorus denotes that it has some difficulty in passing the stricture. When this point has been reached, the treatment is continued with caution, and a sphere is only administered about every five days. As soon as unpleasant symptoms cease to follow its ingestion, a size larger is tried, and so on until one possessing a diameter of 40 mls. can be given without discomfort.

Psychoneurosis as defined by Prince is a true functional disease; it is his idea that an organ forms the habit of responding to the customary stimuli of what may be regarded as pathological reactions; in other terms, a functional disease is the result of a voluntary or involuntary education, caused by the constant repetition of the phenomena that may have their origin in organic disease, pernicious habits, strong emotions, wear and tear of life, as well as the effects of toxic substances. A simpler view advanced by De Langenhagen holds that reflex action plays a more considerable part in the affections of the digestive tube than is ordinarily believed. To gastric irritation he would ascribe the sympathetic phenomena, such as palpitation, arrhythmia, flushing, esophageal spasm, diplopia, vertigo, aphasia, syncope, etc., while the graver disturbances and those producing modification of nutrition, such as neurasthenia and hypochondria, he

would attribute to autointoxication. He believes that the chronic affections of the digestive tube are almost always found in nervous subjects, but when once established they react in their turn on the nervous system.

Dyspepsia is far more frequent among students now than in the time of our fathers, and yet hygiene is to-day far more systematic and advanced. This is due partly to heredity, partly to acquired dyspepsia and neurasthenia. A simpler dietary is needed, the abuse of physical sport must be avoided, and school-children should be examined by a physician at regular intervals.

Hayem recognizes three varieties of chronic gastritis: (1) Hyperpeptic; (2) atypical; (3) mucous. The hyperpeptic form resembles in its microscopical features the parenchymatous inflammation of the kidney. The gastric glands are distended with cells, derived partly from the peptic cells and partly from leucocytes. The disease progresses very slowly, and in its early stages is capable of arrest, but if it be allowed to advance unchecked it gives rise to sclerosis of the gastric mucous membrane. All irritating substances should be excluded from the dietary, and foods containing saccharine and starchy principles should be avoided. For breakfast, a patient recovering from acute gastric catarrh should take coffee or weak tea, a slice of broiled white fish, and a piece of toast without butter. For luncheon, white fish, toast, custard pudding, and a little claret diluted with mineral water. For dinner, white fish, boiled or roast chicken, mutton, custard, jelly, or blanc mange. No soup, vegetables, or cheese should be allowed. The bromide of strontium is extremely useful when administered in doses of 30 grains, twice a day, immediately before the meals, acting as an analgesic and gastric sedative.

In the treatment of chronic gastritis Robin recommends that the intestinal action should be encouraged by means of a pill containing aloes, scammony, jalap, and extract of belladonna. To increase the appetite the patient should suck a piece of quassia shortly before the meal, or take a milligramme of quassin. Pain during the process of digestion is best relieved by a decoction of condurango, while fermentation in the stomach can be easily controlled by the help of naphthol or fluoride of ammonium. Lavage is of great value in the treatment of both acute and chronic gastric catarrh; by this means it is often possible to cut short an acute attack in a day or two, while cases of the chronic type yield rapidly to daily lavage, and are sometimes cured in a few weeks.

In the treatment of motor insufficiency of the stomach, separate the causes of real food stagnation, obstructive or otherwise, from those in which the aliment remains too long, but eventually reaches the intestine without alimentary residue in the stomach. This latter condition may arise from varied causes: first, temporary stasis from reflex contracture of the pylorus; secondly, motor insufficiency from weakness of the muscles of the gastric walls or from disturbed innervation. In some cases there occurs a complication of causes which succeed each other in the following order: motor insufficiency of the stomach, alimentary stasis, abnormal fermentation, organic hyperacidity, and pyloric spasm. In other words, the contracture of the pylorus may sometimes follow rather than precede atony of the gastric walls. Motor insufficiency is frequently a factor in dyspeptic conditions. The general remedies are strychnine, ipecac, sodium bicarbonate, and orexin. Boas prefers the extract of nux vomica; when hyperacidity is associated with motor insufficiency he combines nux vomica with magnesium, bismuth, and sodium bicarbonate. Mathieu recommends the last-named drug with ipecac; and also ipecac, colombo, and gentian. Penzoldt recommends hydrochlorate of orexin in doses of 20 cubic centimeters, while Klemperer and Pick report good effects from creosote. While these remedies are of some value, they should be considered as representing only one side of the treatment, for diet, electricity, and massage, together with hydrotherapy, are equally valuable.

The problems of gastric secretion increase in difficulty the more they are studied; the amount of food ingested has no proportionate effect on the secretion of pepsin or hydrochloric acid. The activity of both pepsin and hydrochloric acid increases with the progress of digestion. He finds the peptonizing power present in advanced cases of alcoholic and other forms of catarrhal gastritis. After elaborate experiments, Crone concludes that hydrochloric acid, in the proportion of 0.05 to 0.1 per cent, shows the best digestion. The behavior of the gastric glands during starvation has been studied by Pawlow. The act of mastication by a fasting dog led to the secretion of gastric juice, but this result diminished gradually, disappeared, and on the fifth day failed to appear. The proportion of acid to ferment continued the same so long as gastric juice was secreted. During starvation the stomach is nourished at the expense of other organs, and its secretion merely awaits the ingestion of food, and for a time the mere act of mastication is sufficient to excite it. The behavior of the secretory cells is of importance, in showing the source of

the functional disturbances; inactivity in secretion may depend upon enteric disease. Thus hyperchlorhydria is usually accompanied by constipation, and anacidity by looseness of the bowels; the latter fact is often overlooked by physicians, who direct their treatment toward the intestine when the real fault rests in the stomach; in children suffering from looseness of the bowels there is usually a change in the gastric digestion. Gastric juice is bactericidal, while neither pepsin nor hydrochloric acid exercises much effect in that way. Wirszubski believes that the entire physiology of the stomach must be studied anew, and that eventually this study will explain the etiology and pathology of many gastric disorders that are now obscure.

CAVERNOSITIS.

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Acute and subacute inflammation of one or both corpora cavernosa is by no means as rare as is ordinarily supposed. The condition occurs not infrequently as a sequence of internal urethrotomy. I am by no means convinced that it is due in these cases to a deviation of the incision from the median line, with resulting traumatism of one or the other of the cavernous bodies. Otis was wont to attribute curvature of the organ following the operation of urethrotomy to a gluing together of the planes of areolar tissue lying between the spongy and cavernous bodies, as a consequence of which they failed to slide upon each other at periods of physiologic stimulation.

I am confident, however, from a large experience in this class of cases that Otis's explanation will not suffice in some of them. Nodosities are not infrequently left behind, producing deformity lasting for a variable period. Careful palpation of these nodular thickenings will, I think, show that they are due to an inflammation of the spongy body itself. The sheath proper of the corpus cavernosum becomes involved in the inflammation, and this extends to the spongy tissue proper. Infection, which, by the way, is often unavoidable in such cases, doubtless plays a very important rôle in the production of this form of cavernositis. I have come to believe that the condition is especially liable to occur in syphilitics.

Recovery is the rule, but it must be confessed that in quite a proportion of instances the difficulty endures for a sufficient length of time to cause great mental disquiet on the part of the patient, and much annoyance to the surgeon.

I have noted in the course of acute and chronic gonorrhea a similar involvement of the cavernous bodies, undoubtedly due to infection, whether mixed or specific I am unable to form an opinion. The question of the kind of infection is of very little moment. Recovery is here the rule. I have observed that patients at or about middle age, afflicted with urethritis, who have submitted to the operation of internal urethrotomy, are more likely than young subjects to develop cavernositis, and when it does develop it is much more stubborn than in the latter.

Chronic inflammation is much more frequent than the acute and subacute varieties, and, if the experience of the specialist were to be taken as a criterion, is by no means rare. Taking into consideration, however, the fact that the specialist necessarily meets with the overflow cases from the office of the general practitioner, it would hardly be fair to assert that cavernositis is of very frequent occurrence.

The etiology of chronic cavernositis is very obscure. In some few recorded instances it has been attributed to syphilis. It is readily conceivable that a syphilitic deposit may occur either in the erectile tissue or fibrous envelope of the cavernous bodies. This may excite proliferation of connective tissue, producing thickening of the corpora cavernosa. As a consequence, impairment of elasticity results and erection is apt to be defective. This condition appeared in one of my cases several weeks after operation for stricture by a competent surgeon. There was a permanent lateral deviation of the organ during erections. This patient, however, was suffering from late secondary syphilis, and it would be difficult to determine what influence the constitutional disease had over the morbid condition following urethrotomy. In some instances calcific material is deposited at the seat of the chronic inflammation, giving rise to a peculiar condition that has been erroneously termed ossification of the penis. In other instances the fibrous deposit becomes pseudo-cartilaginous. The plates of cartilaginous or calcific material may be readily felt through the superlying tissues. In some instances they are localized and of small dimensions, in others encircling the greater portion of the circumference of the corpora cavernosa. It has been asserted that deposits resulting from chronic cavernous inflammation are likely to move from the original location, in some instances grad-

ually advancing to the root of the penis and sometimes eventually disappearing. My experience has apparently confirmed this.

Gout seems to bear a very important etiologic relation to chronic cavernositis. What relation long-forgotten traumatism may bear to it is an open question. We must not overlook the possible analogy of strictures following old-time trauma and urethritis.

I have met with two cases in which inflammation of the corpora cavernosa developed as a complication of chronic urethritis and stricture. In one case there was marked lateral deviation of the penis during erection; several plaques of induration were discernible. Recovery ensued after some months of urethral treatment conjoined with the faradic current and massage.

The conditions described are of importance only as regards their psychic results and possible interference with erection.

The treatment of acute and subacute cavernositis should consist in massage and counter-irritation. Inunctions of mercurial ointment are often of value. Instrumentation of the canal should cease as soon as the surgeon is confident that the danger of recontraction of the stricture is past in the cases following urethrotomy. In cases occurring as a complication of acute or chronic gonorrhea, instrumentation should be begun as soon as the urethra will tolerate the passage of sounds. Massage upon a full-sized sound at intervals of two or three days is often of great service in these cases. Irrigations of permanganate in the cases due to infection from the urethra are a *sine qua non*. They should be given daily, care being taken not to overdistend the urethra.

The treatment of chronic cavernositis is not very promising. In all cases, whether acute, subacute, or chronic, the iodide of potassium internally is a rational indication, especially if syphilis be suspected. In several of my cases large and increasing doses of the iodide of potassium, with local inunctions of mercury, reduced the induration to a considerable extent, but did not remove it entirely.

Antilithic remedies are always in order, in view of a possible gouty origin.

It is possible that the *x*-ray may be of service in these cases, but I have as yet had no experience with it.

Massage, combined with the faradic current, is worthy of trial, especially in the acute and subacute varieties of cavernositis. Electrolysis is worse than useless.

It is advisable for the surgeon, on assuming charge of the chronic variety of cavernositis, to apprise the patient of the obstinacy of the condition, and of the probability that it will be permanent. In a few cases in which the patient is not too far advanced in life the induration disappears spontaneously. In patients above middle age, with an extensive involvement of the corpora cavernosa, there is practically no hope of a change for the better. The tendency of the condition is to grow gradually worse. Under such circumstances the only consolation we can offer the patient is that the condition is not dangerous.

A FEW SALIVARY FACTS AND FALLACIES.

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It is well known that the saliva is composed of the admixture of parotid, submaxillary, and sublingual (serous glands) secretions, to which is also added the product of the mucous glands of the buccal cavity, the chemical composition of the fluids thus combined being about as follows: Water, 99.5 per cent; ptyalin, .1 per cent; sulphocyanate of K, with salts of Mg., Ca., Na., and K, .2 per cent; organic extracts and serum albumen, .2 per cent; total, 100 per cent.

The quantity of saliva ordinarily secreted varies considerably. In the healthy individual it may be from one to four pints during each twenty-four hours, depending entirely upon circumstances—*e.g.*, the amount is increased by the ingestion of food, even the smell of savory dishes being sufficient to cause a superabundance, likewise the administration of certain drugs, and irritation or stimulation from any cause will bring about the same result; on the other hand, it may be remarked, *en passant*, that certain emotions, as anger, fear, etc., may temporarily completely suspend the salivary secretion.

The rôle played by the salivary secretions in the process of digestion is too well understood to require specific mention—in fact, the scope of this dissertation is not sufficiently wide to permit consideration of that feature.

The ancients considered saliva, not only that from the human being but also from certain animals, a most efficacious remedy in the treatment of many vexatious ills to which the *genus homo* is prone, and medical as well as ecclesiastical history is replete with evidence concerning the indications for utilizing this peculiar substance:

And He took him aside from the multitude, and put His fingers into his ears, and He spit and touched his tongue; and straightway his ears were opened, the string of his tongue was loosed, and he spake plain.

And He took the blind man by the hand, and led him out of the town; and when He had spit on his eyes, and put His hands upon him, He asked him if he saw aught. After that He put His hands again upon his eyes, and made him look up; and he was restored, and saw every man clearly.

And He spat on the ground and made clay of the spittle, and anointed the eyes of the blind man with the clay. He put clay upon mine eyes, and I washed and do see. (Holy Bible.)

Human saliva was at one time quite generally used as a charm, and was thought particularly efficacious against the venom of poisonous animals. Pliny quotes authorities to prove that the pernicious powers of toads and frogs may be disarmed by this means, and that serpents may be rendered innoxious by spitting into their mouths.

The testimony of Varro is cited to show that there were people in the Hellespont, near Pasium, who could cure the bite of snakes by their saliva. And the Marsi, in Italy, are still in possession of the same power, for which it is said they are indebted to their origin from the son of Circe, from whom they acquired it as a natural quality; but the fact is that all men possess in their bodies a poison which acts upon serpents, and the human saliva, it is said, makes them take to flight as though they had been touched with boiling water. The same substance, it is claimed, destroys them as soon as it enters their throat, and more particularly so if it should happen to be the saliva of a man who is fasting (Pliny).

In regard to the many uses to which human saliva may be put, Pliny states: But it is the fasting spittle of a human being that is the sovereign preservative against the poison of serpents; while at the same time our daily experience may recognize its efficacy and utility in many other respects. We are in the habit of spitting, for instance, as a preservative from epilepsy, or in other words we repel contagion thereby; in a similar manner, too, we repel fascinations and the evil presages attendant upon meeting a person who is lame in the right leg. We ask pardon of the gods by spitting in the lap, for entertaining some too presumptuous hope or expectation. On the same principle it is the practice in all cases where medicine is employed to spit three times on the ground, and to conjure the malady as often, the object being to aid the operation of the remedy employed. It is usual, too, to mark a boil, when it first makes its appearance, three times with fasting spittle.

What we are going to say is marvelous, but it may easily be

tested by experiment: If a person repents of a blow given to another, either by hand or with missile, he has nothing to do but to spit at once in the palm of the hand which has inflicted the blow, and all feelings of resentment will be instantly alleviated in the person struck. This, too, is often verified in the case of a beast of burden when brought on the haunches with blows; for upon this remedy being adopted the animal will immediately step out and mend its pace. Some persons, however, before making an effort, spit into the hand in the manner above stated, in order to make the blow more heavy.

We may well believe, then, that lichens and leprous spots may be removed by a constant application of fasting spittle; that ophthalmia may be cured by anointing, as it were, the eyes every morning with fasting spittle; that carcinomata may be effectually treated by kneading the root of the plant known as "apple of the earth" with human spittle; that crick in the neck may be got rid of by carrying fasting spittle to the right knee with the right hand, and to the left knee with the left; and when an insect has gotten into the ear it is quite sufficient to spit into that organ to make it come out. Among the counter-charms, too, are reckoned the practice of spitting into the urine the moment it is voided, of spitting into the shoe of the right foot before putting it on, and of spitting while a person is passing a place in which he has incurred any kind of peril.

Marcion (of Smyrna) who has written a work on the virtues of simples, informs that the sea scolopendra will burst asunder if spit upon; and that the same is the case with bramble frogs, and other kinds of frogs. Opilius says that serpents will do the same if a person spits into their open mouth; and Salpe tells us that when any part of the body is asleep the numbness may be got rid of by the person spitting into his lap, or touching the upper eyelid with his spittle.

If we are ready to give faith to such statements as these, we must believe also in the efficacy of the following practices: Upon the entrance of a stranger, or when a person looks at an infant while asleep, it is usual for the nurse to spit three times upon the ground; and this, although infants are under the special guardianship of the god Fascinus, the protector not of infants only but of generals as well, and a divinity whose worship is entrusted to the vestal virgins, etc. (Pliny).

There are many more modern current superstitions concerning saliva—*e.g.*, warts may be speedily removed by having a beautiful young lady rub them well with her spittle while your

eyes are closed. If you meet a cross-eyed person, as a preventive against bad luck you should cross your fingers and spit over your shoulder or into your hat. If you are unlucky at cards, walk three times around your chair and spit in the bottom thereof. To insure an abundant catch of fish, always spit upon the bait each time before making a cast. If your eyelid itches from any cause, moisten the forefinger with saliva and rub it well. For the cure of a stye, spit on a gold ring and rub the ring on the stye. For minor cuts, bruises, etc., there is nothing superior to saliva well rubbed in, *ad infinitum, ad nauseam.*

It is said that saliva from the mouth of a horse applied to leprous spots of the face will cure them, and in phthisis pulmonalis the best and most useful remedy, even for those of whose life you despair, is to take the saliva from a horse, mix it with hot wine, and give it to the person three succeeding days. For croup in children, take the saliva from the mouth of a horse which was fed with oats or barley, and wash the mouth of the patient with it. If any one has a severe pain in his ear, mix the saliva from a horse with oleum rosæ and drop it into the ear, and the pain will be relieved. Horse's hoof ashes mixed with saliva from a horse's mouth applied to red spots on the face will drive them away.

Bergmann* claims that there are four diseases in which the saliva may be utilized as an aid in the treatment thereof: (1) In inflammations of the throat. A gargle acts only as a cleansing fluid, having no curative influence on the lesion, whereas the saliva which is constantly being swallowed and thus passing over the whole inflamed area reduces the irritation. (2) Hyperacidity of the stomach. The abnormal increase of hydrochloric acid in the gastric juice cannot be neutralized by the usual alkali therapy; the alkali in the saliva, however, is able to combine with the acid and neutralize it. This end is obtained by having the patient masticate vigorously. (3) Obesity. By continued chewing and expectoration, thus reducing the quantity of water in the system and protecting the heart, a great reduction of weight may be brought about. (4) In effusions, by the same process, it is possible during the day to expectorate 400 to 1000 cubic centimeters of saliva. In several cases of exudative pleurisy salivation was beneficial.

In a contribution on the import of the salivary and nasal secretions in hay-fever Kyle† says there can be no doubt that with the variations of reaction from alkaline to acid, and *vice*

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†American Medicine.

versa, the secretion must undergo decided changes in its chemic composition. It is a well known physiologic and therapeutic fact that certain drugs exert a selective action upon parts of the body, and it is not impossible that by studying the saliva one can determine important changes in the chemic process going on within the body. Hyperacidity is said to favor chemic change in the tissues with an increase in the proportion of organic acids. The chemic action of the saliva depends upon its ferments, the most important of which is ptyalin. A great many morbid processes have been traced to uric acid, but it is believed that many equally important substances are deposited and eliminated. In this way might be explained many of the reflex neuroses, as, for instance, hay-fever.

After a series of examinations of the saliva of certain individuals afflicted with hay-fever, and of those not so afflicted, Kyle concludes that the irritation often arises from a chemic change in the saliva. There is apparently a wide field for investigation in this direction. A teaspoonful of common salt swallowed at one dose has been known to cut short more than one attack of hay-fever, thus showing the relation between the chemistry of the secretions and such irritative conditions. Hay-fever rarely if ever manifests itself in atrophic rhinitis, a condition which involves the mucous secretions, and certain attacks of so-called hay-fever often come on suddenly without apparent exposure to cold or other common source of irritation. In such cases it is believed that owing to some alteration in the chemic composition of the saliva substances are formed which on exposure to the air become decomposed and give rise to irritants. Such an attack is comparable to the condition resulting in some individuals from the inhalation of ammonia. Normally the sulphocyanides and ammonia salts in the saliva are present in about equal proportions, whereas in many of these cases those compounds have been found to be in excess. In cases of hyperacidity the sulphocyanides are in greater proportion than the ammonia salts, and the secretions are less irritating; in cases of diminished acidity the reverse is true.

Over one hundred cases of disease of various kinds have been investigated by Robertson* in order to determine if the activity of the salivary ferment was altered. In gastrointestinal disorders twenty-one cases were examined, and the average amount of sugar formed in these was 0.089 gramme. In chronic gastric

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catarrh the amount varied from 0.078 to 0.1 gramme. In one case of great dilatation of the stomach the salivary ferment proved to be almost absent, or at least inactive in the saliva. In the group of lung diseases studied generally the salivary ferment was fairly active, and on an average 0.087 gramme of sugar formed. In the cases of phthisis examined ptyalin was present in normal amount, as the sugar formed almost always reached the standard quantity. In a large group of heart cases the saliva retained its usual composition, and the amount of sugar formed in the experiments was about normal. Of three cases of Addison's disease examined, the saliva of two showed marked deficiency in its power of starch digestion, while the third exceeded the normal limit. Taken altogether, the group of renal diseases showed a lower average than the normal.

The saliva possesses† bacteria-killing properties, and one of its rôles is weakening the virulence of pathogenic microbes. The chemical properties of the saliva and the soluble products of the microbes contained therein excite an intense diapedesis, which is carried on in the mouth, and which attains its maximum at the surface of wounds. Also the mucus of the buccal cavity, when there is a suspension of the saliva, possesses bacterial properties. Again, the saliva induces incessant epithelial desquamation, and vital concurrence eliminating the bacteria not acclimated.

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THE Pennsylvania House has, says *American Medicine,* passed the Sproul bill, authorizing castration in cases of hopeless imbecility. This bill passed the senate earlier in the session, and now awaits the governor's signature. The bill provides that it shall be compulsory for institutions in the State entrusted exclusively or especially with the care of idiots and imbecile children to appoint upon its staff at least one skilled neurologist and one skilled surgeon of recognized ability, whose duty it shall be in conjunction with the chief physician of the institution to examine the mental and physical condition of the inmates. If in their judgment deemed advisable, it shall be lawful for the surgeon to perform such operation as shall be decided safest and most effective, but the operation shall not be performed except in cases that have been pronounced non-improvable after one year's test in the institution.

†*American Medico-Surgical Bulletin.*

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

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Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THYROID AND OVARY.

Physiologists have for long admitted some sort of functional relation to exist between the thyroid and ovary. This has in latter days been pointed out as consisting essentially in a physiological antagonism, and it is this fact that explains the hypertrophy of the thyroid during the menopause as also during pregnancy. In the first case the ovary atrophies, and in the second suspends its function. Hofmeister observed the antithesis of this process, and in those animals in which he had removed the thyroid observed a precocious development of the ovary.

This would seem to indicate a mutual relation of antagonism. From the standpoint of physiological repair it is known that the thyroid facilitates the development of osseous tissue, and that injections of its substance correct defective ossification in osteomalacia due to ovarian hypersecretion, as in an inverse manner it is known that removal of the ovary effects the same result.

Take again in the matter of adipose tissue. This is more developed in females than in males—that is, its redundancy is dependent on the existence of the ovary. This tissue is rapidly developed in hyperthyroidism, as in scleroderma and myxedema. Thyroid therapy on the other hand makes fatty tissue disappear.

More fanciful comparisons are those which attribute fine hair to the ovary, while the thyroid tends to its coarser development; that the thyroid increases the heart pulsations and the ovary diminishes them; that the plasticity of the blood is increased by the thyroid and diminished by the ovary through menstruation, hyperthyroidean women having a tendency to metrorrhagia. All these conclusions are more or less fantastical, nevertheless they direct attention to a relation which doubtless exists in some form or other, though it may only be in the supply to the blood of specific hemolytic elements.

EDITORIAL NOTES.

Mortality from Tuberculosis Reduced in Germany.

The fight against tuberculosis which has been taken up in this country by a number of enthusiastic medical men has been going on in European countries for some years. From Germany come some very valuable statistics on the efficacy of the campaign that has been waged against tuberculosis there. During the period from 1887 to 1891 the number of deaths from tuberculosis per 100,000 inhabitants in all French cities of over 10,000 population was 351 per annum. In German cities of over 15,000 population the rate was 304. From 1897 to 1901 the death-rate from tuberculosis in France remained with slight variations at about 349.8. In Germany, on the other hand, there was a decrease to 218.7. These figures indicate that in the lapse of ten years there was in France a diminution of mortality from tuberculosis of only 1.2 per 100,000 inhabitants, while in Germany the decrease was 85.3 per 100,000. In both of these countries the conditions among the poor are about the same, so that it is easily seen that in Germany, where the fight has been increasing, the results have warranted all the time and energy expended to lessen the mortality from tuberculosis.

A Blow to Christian Science.

The strenuous efforts of the Christian scientists to obtain recognition under the medical laws of the different States have received a setback in one State, viz., Ohio. A recent decision by the Ohio Supreme Court holds that Christian science healers cannot practice without a State license. The court says: "The giving of Christian science treatment for a fee for the cure of a disease is practicing medicine within the meaning of the statutes regulating such practice in this State. The statute making it a misdemeanor to give such treatment for a fee is not interference with the right of conscience and worship, and is not on that ground unconstitutional. Legislation prohibiting any one from treating a disease for a fee excepting such persons as have prescribed qualifications is a valid exercise of the police power of the State, and is constitutional." Decisions of like character to this in other States would soon dampen the ardor of a great many zealous "scientists" who offer up healing prayers for a consideration.

The Proposed Tuberculosis Sanatorium.

Through a special committee the Michigan State Medical Society has petitioned the legislature to appropriate sufficient funds for the construction of a sanatorium for dependent consumptives. Its object is to cure the incipient stage of tuberculosis, to disseminate knowledge of the prevention of the disease, and to afford better protection to the public health. Such institutions have been built in the States of Massachusetts, New York, Maine, Rhode Island, Pennsylvania, Ohio, New Jersey, and Minnesota. Tuberculosis, which was once regarded with distressing fatalism as hereditary and incurable, has been proven to be neither one nor the other. The average records show from 60 to 80 per cent of cures of the incipient stage, if properly attended to in a sanatorium. The climate of Michigan is as favorable as in the Adirondacks or in the adjoining States, and this State ought to provide for its poor consumptives in the same manner as it provides for the insane and other dependents.

A Notable Celebration.

There occurred in London on the 17th of March a celebration by the London Laryngological Society of the one hundredth birthday of Manual Garcia, the Spanish music teacher who discovered the laryngoscope. It was just fifty years from the above date that Garcia read a paper before the Royal Society entitled "Observations on the Human Voice." Garcia, while not the first to conceive the idea of viewing the human larynx by means of reflected light, it having been proposed by Babbington as far back as 1829, was the first to make a practical demonstration of the use of the laryngoscopic mirror. Garcia received on his birthday decorations from King Edward, Emperor William, and the King of Spain. The whole medical profession the world over sent him on this occasion addresses in honor of the discovery he made in founding one of the most important specialties in medicine.

ITEMS AND NOTES.

THE Wisconsin State legislature contains at present seven practicing physicians.

M. C. WHITNEY has given $5000 toward the endowment of the chair of pathology at Oxford.

THE next Australian Medical Congress will be held in Adelaide, South Australia, in September, 1905.

THE Children's Free Hospital, of Youngstown, Ohio, has recently received gifts to the extent of $1500.

DR. ANTONIO FANOONI, of New York City, has been made a Knight (Chevalier) of the Order of the Crown by the King of Italy.

CEREBROSPINAL MENINGITIS has caused many deaths in Greater New York since January 1. Most of the victims were children.

ACCORDING to reports to the State Department at Washington plague has appeared at Chanaral, Chile; suspected cases are occurring at Iquique. Piscaqua is also affected.

A NEW society has been organized in Berlin called the Society for Social Medicine, Hygiene, and Medical Statistics. Dr. Dietrich, of the Prussian cabinet, was elected president.

GROUND has been broken for the new Manhattan Eye, Ear, and Throat Hospital. The hospital will cost between $450,000 and $500,000, including the equipment. The building will be six stories high.

AMONG those present at the recent dedication of the new Lutheran Cathedral in Berlin was Dr. Luther, a physician practicing at Luckenwalde, who is said to be a direct descendant of Martin Luther.

THE *Journal of Experimental Medicine,* formerly edited by Dr. Welch, of Baltimore, will hereafter be published under the auspices of the Rockefeller Institute for Medical Research, New York, and will be edited by Drs. Simon Flexner and Eugene L. Opie.

It is reported that Dr. William T. Councilman will be recalled to Johns Hopkins from Harvard, where he is now professor of pathology, to fill the vacancy created by the removal of Dr. Osler to Oxford.

Dr. Edward H. Hume, a graduate of the medical school of the Johns Hopkins University, Baltimore, has been appointed head of the medical department of the new Yale College in Chungsha, China.

A drastic anticigarette bill passed the Wisconsin Senate on St. Patrick's Day. It had previously been passed by the Assembly. It makes unlawful the sale, gift, or importation in the State of cigarettes, or cigarette materials.

Dr. S. Weir Mitchell, of Philadelphia, who has won equal distinction in the diverse provinces of practical medicine, scientific research, and what used to be called "polite letters," celebrated his seventy-fifth birthday on February 15.

The Henderson County, Ky., Medical Society, at a meeting recently held, determined to present the name of Dr. Ephraim McDowell, one of Kentucky's illustrious sons and one of the most famous of American physicians, for one of the statues in the National Hall of Fame.

In order to avoid clashing with the International Tuberculosis Congress which is to be held this year in Paris from October 2 to 7, the Organizing Committee of the French Congress of Medicine has decided to change the date of meeting from October 2, 3, and 4, to September 25, 26, and 27.

The total number of deaths in Michigan returned to the Department of State for the month of February was 3218, corresponding to a death-rate of 16.4 per 1000 population. This is higher than the rate for the preceding month, 14.2 per 1000, but slightly lower than the death-rate for February 1904, which was 17.1 per 1000.

General Davis, governor of the Panama Canal zone, has notified the Secretary of War that he can dispense with nearly all of the marines on the isthmus, on account of the fear of an epidemic of yellow fever in the locality where the marines are stationed. The Secretary of the Navy has been called upon to order all of the marines north except about one hundred. They will probably be sent to Guantanamo.

The German Otological Society will hold its fourteenth annual meeting this year on June 9 and 10 at Homburg, under the presidency of Dr. F. Kretschmann, of Magdeburg. The principal subject proposed for discussion is deafness in school-children, on which a report will be presented by Professors Arthur Hartman and Passow, of Berlin.

The medical study tour in Germany this year will start from Munich on September 13. The tour will comprise visits to the following watering-places and health resorts: Ischl, Reichenhall, Berchtesgaden, Gastein, Gossenass, Levico, Roncegno, Riva, Gardone, Scio, Arco, and Meran, where the tourists will arrive in time for the meeting of the German Association of Scientists and Physicians, which is to be held there this year.

An exchange states that a bill has been introduced in the Iowa legislature forbidding "healers" to practice in the State under penalty of imprisonment in the penitentiary. The introducer of the bill has promised to withdraw it if the Eddyites will cure the doorkeeper of the House, who is afflicted with deafness. Some of the healers are not willing to accept the challenge, but others believe that this is the appointed time to make a cure and demonstrate their powers in the most public way, and propose to organize a concert of prayer and hard thinking for removal of the doorkeeper's belief that he cannot hear.

The government of the Canadian Northwest Territories has, says an exchange, established a bacteriological and pathological laboratory at Regina, and Dr. George Charlton has been appointed to take charge of the work. For the present the laboratory will be situated in the government building in connection with the department of agriculture. The first research to be undertaken is an investigation of the nature of a local disease of horses known as swamp fever, which is rapidly fatal and occasions considerable losses yearly to the ranches. The nature of the malady is to be determined, and then if possible means of treatment and prophylaxis are to be devised. The recent epidemics of diphtheria and typhoid fever will also be studied.

In Germany, says the *Journal of the American Medical Association,* there is a total abstinence society among physicians which gives prizes every year for the best antialcoholic work presented. The theme in 1903 was "Influence of Alcohol on the Heart of Warm-blooded Animals." The article which won the prize was written by M. Kochman, of Ghent, and the com-

mittee regard the research on which it is based as representing a decided progress in our knowledge of the action of alcohol on the heart. Another work, presented by O. Loeb, of Heidelberg, was also deemed so fine that a second prize was raised and presented to him. The theme for the current year is "Influence of Very Small Amounts of Alcohol on the Functions of Mind and Senses." Especial attention should be paid to the differences in sensation and the threshold values under alcohol. The judges are Kraepelin of Munich, Grutzner of Tübingen, and Aschaffenburg of Cologne. The competing articles should be sent to Dr. G. Keferstein, at Luneburg, before April 1, 1906.

A SPECIAL report on the prevalence of fevers in the Dinapur district in Bengal has recently been published by the government of India. The death-rate attributed to "fevers" having risen considerably, Captain Rogers, I.M.S., was especially sent to inquire into the matter. He found that chronic malaria—the chronic fever produced by Leishman's parasite—dysentery, pneumonia, phthisis enterica, and other diseases were responsible for this large death-rate. The distributions and varieties of Anopheles in the district selected were also studied, and A. Fuliginosus, A. Rossii, and A. Listonii were found to be the common species. The latter is probably the only one that spreads malaria in natives, and Rogers points out that in dealing with the question of prophylaxis it is important to direct attention to the destruction of the harmful species in particular. He further believes that great circumspection is required in recommending measures for destroying Anopheles in Lower Bengal, and looks more to the general distribution of quinine as the main factor in the reduction of malaria.

PRESIDENT ELIOT, of Harvard University, in a recent report has the following to say in regard to football. The game of football has become seriously injurious to rational academic life in American schools and colleges, and it is time that the public, especially the educated public, should understand and take into earnest consideration the objections to this game. Some of the lesser objections to the game are its extreme publicity, the large proportion of injuries among the players, the absorption of the undergraduate mind in the subject for two months, and the disproportionate exaltation of the football hero in the college world. Many serious injuries occur which are permanently recovered from in good measure, but which are likely to prove a handicap to the victim in later life. In speaking of the football athlete he

says: "The alert, nimble, wiry, tough body is for professional or business purposes in future life a better one than his; and the mental qualities of the big, brawny athlete are almost certain to be inferior to those of slighter, quicker-witted men, whose moral ideals are at least as high as his. What, then, are the sources of the grave evils in this sport? They are (1) the immoderate desire to win intercollegiate games; (2) the frequent collisions in masses which make foul play invisible; (3) the profit from violation of rules; (4) the misleading resemblance of the game to war as regards its strategy and its ethics."

THE Bulletin of Chicago's Health Department says agitation for the modification of the milk ordinances of Chicago so as to permit of the feeding of milch cows on "wet malt" continues, and threatens to be carried into the City Council, notwithstanding that the recent Milk Producers' Convention unanimously indorsed the subjoined statement of the commissioner, read at the convention February 10: "Dairy chemists agree that milk from cows fed on 'wet malt,' brewery grains, slops, etc., while it may contain the normal amount of butter fat, is deficient in solids—not fat, the proteids, etc.—which are essential nutritive constituents of whole and wholesome milk. Such material affects the health and vitality of the animal fed upon it and makes it more susceptible to disease. Out of 61,030 milch cows inspected last year by the department dairy inspectors every case of sickness—from anthrax, tuberculosis, and actinomycosis, or 'lump jaw,' to the milder affections—was found in herds fed upon 'wet malt.' No case of illness was found in herds which were not so fed. This fact, which was noted early in the inspection work, led to a series of bacteriologic examinations by the director of the department laboratory, the results of which showed an enormous preponderance of the peptonizing and putrefactive organisms in the milk of cows fed on such material. It is owing to the presence of these organisms that such milk does not sour, but putrefies in a short time with a vile odor. No amount of pasteurizing will make such milk wholesome, because the toxins or poisons produced by these organisms are not affected by a pasteurizing temperature. When fed to the young this milk causes marasmus or 'wasting,' infantile diarrhea, dysentery, and all the symptoms of chronic ptomaine poisoning. Its use for human food should be positively prohibited." As a matter of record the milk from 544 dairies where "wet malt" was being fed was excluded from sale in Chicago last year, and the prohibition is still being enforced.

NEW PUBLICATIONS.

CONSERVATIVE GYNECOLOGY AND ELECTRO-THERAPEUTICS.

Massey's name has now for a long time been associated with the electrical treatment of fibroids, and a new edition of his work directs attention to the widening range of application for electricity in gynesic conditions. The author's experience in the treatment of fibroid is certainly noteworthy, and forms a formidable defense to the aspersion of his method which is so often indulged in by the zealous advocates of surgical measures. The whole subject of electrical treatment is discussed in the present manual with precision and fulness.

Conservative Gynecology and Electro-Therapeutics. A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. By G. Betton Massey, M.D., Attending Surgeon to the American Oncologic Hospital, Philadelphia; Fellow and Ex-President of the American Electro-Therapeutic Association; Member of the Société Française d'Electro-Thérapie, American Medical Association, etc. Fourth Edition, Revised, Rewritten, and Greatly Enlarged. Illustrated with Twelve (12) Original, Full-page Chromolithographic Plates; Twelve (12) Full-page Half-tone Plates of Photographs taken from Nature, and 157 Half-tone and Photoengravings in the Text. Pages xvi-468. Royal Octavo. Extra Cloth, Beveled Edges. Price, $4.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

GYNECOLOGY.

The author is already well known as a writer on gynecology, and the present work must not therefore be considered as a new edition of his previous manual, his Text-book on Diseases of Women. The present volume consists of an outline of the essential principles of gynecology, and is specially designed for students and practitioners. The text is clear and lucid in style, and the illustrations are numerous and appropriate. The range and scope of the contents are coextensive with the scientific and artistic achievements of gynecology. The book will find favor with its readers.

Gynecology. Medical and Surgical Outlines for Students and Practitioners. By Henry J. Garrigues, A.M., M.D., 343 Illustrations. J. B. Lippincott Company, Philadelphia.

THE INTERNATIONAL MEDICAL ANNUAL.

The Medical Annual is too well known to need any introduction. The present number reflects, in its increased size, the activity prevailing in all departments of medicine. Tropical diseases come in for a large share of attention. For the purpose of rapid reference, and for attaining an intimate acquaintance with the different sides to a medical problem, the use of the Annual is unsurpassed.

The International Medical Annual. A Year-book of Treatment and Practitioners' Index, 1905. E. B. Treat & Co., New York.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Decapsulation and Fixation of the Kidney.

Professor Cecherelli, of Parma, Italy (*Annals of Gynecology and Pediatry,* March, 1905), relying on his personal experience and numerous experiments on animals, considers himself warranted in formulating the following conclusions:

Decapsulation of the kidney is an operation of little severity. During the days which follow the operation the urine is very concentrated, with high density and high cryoscopic point; it contains much urates and chlorides; subsequently the quantity of urine secreted often exceeds the normal, but the increase of solid matter is not usually proportional to the diuresis. These two groups of symptoms are explained by the action of the decapsulation—that is to say, by the relief of compression of the two distinct territories of which the kidney is anatomically and physiologically composed: one glomerular, destined especially for secretion of the water; the other formed by the tubules, and providing for the elimination of the solid matter.

It is logical to suppose that when the compression exercised by the fibrous capsule ceases there occurs during a few days a vascular dilatation and a retardation of the circulation, from which results a diminution of quantity and an increase of concentration of the urine.

A little later, when new blood-channels have been formed, they bring a more abundant irrigation to the cortical zone and the quantity of urine is increased. When the capsule is formed again the vessels are again subjected to the physiological pressure, and the blood-current regains its normal speed.

Dr. Cecherelli considers that renal decapsulation is indicated in cases of acute functional insufficiency of the organ, when the parenchyma remains healthy, for in these cases we can rely on a rapid purification of the blood. He thinks, likewise, that decapsulation and drainage will be able to take the place of nephrotomy in hemorrhagic microbic nephritis, especially where the lesions are cortical. He states that his experience is as yet insufficient concerning the results of decapsulation in chronic nephritis. He thinks that in addition to nephropexy, decapsulation may render

great service in the treatment of movable kidney, which, as is well known, is often diseased kidney.

Since 1894 the author has practiced decapsulation in every nephrorrhaphy. Clinical experience has shown the innocuousness of this procedure, and, on the other hand, it is known how solid are the adhesions which it creates between the kidney and the neighboring parts. Finally the modifications in the renal circulation which are produced by it are very favorable, for the physiological renal function is only altered in that it is rendered more active.

Abscess of the Liver in Typhoid Fever.

George Hugne has collected a series of observations on the occurrence of hepatic abscess in typhoid fever (*British Medical Journal*, March 4, 1905). The lesion is an uncommon one, is more liable to occur in cases of colon typhoid, and is met with in persons who have already suffered from some lesion of the liver, malarial or otherwise. Abscess of the liver may be single or multiple, the former resembling the large abscess of dysenteric origin, and may occur in either lobe. The contents are brown or yellowish-green pus, not always fetid. Multiple abscesses, on the other hand, present the metastatic characters and resemble those occurring in any infectious disease. Their size varies from that of a lentil to a filbert. They may coalesce and form a large collection of pus, which can be distinguished from the single abscess by the irregularity of its walls. The contents are fetid, and pylephlebitis is usually present. The symptoms of metastatic abscesses are indefinite, and it is therefore not surprising that they may not be detected in the course of typhoid fever. The appearance, however, between the fourth and fifth week of pyemic symptoms, with enlargement and tenderness of the liver, suggests the presence of multilocular abscess. Jaundice may also occur. The general state of the patient becomes more adynamic, and he dies of septicemia. In other cases an early diagnosis is possible, and consequently surgical intervention results in good prognosis. In these favorable cases the prodromal symptoms are less marked—slight rigor with elevation of temperature, often accompanied by severe peritoneal pain. Jaundice is more frequent than in case of solitary abscess. It appears early and progresses; the liver is enlarged and tender, and there are general signs of septic infection.

Unless operated upon all cases of typhoid abscess of the liver

are liable to terminate fatally. If the patient's general condition is such that operation would be doubtfully borne, recourse may be had to puncture. The writer quotes Chatter as having had an excellent result in one case in which he punctured three times in succession. It is necessary to bear this in mind, as typhoid patients bear major operations badly. Spontaneous extravasation is liable to take place into the peritoneal cavity, the intestines, and the thorax. In conclusion the author emphasizes the importance of thorough and repeated examination of the liver in cases of typhoid in order to avoid missing this very fatal complication.

Prostatic Enlargement.

The general practitioner, according to C. E. Barnett (*American Medicine,* April 8, 1905), should be prepared at least to make a rectal examination of the prostate whenever symptoms point to that region, and if hypertrophic changes are found, and after careful treatment if the tumor does not diminish in size, surgical intervention should be advised and insisted upon.

If infection has not preceded catheter life, it is sure to follow. In this condition the patient's life is most pitiable. No one is a better prey for quacks, or more unsatisfactory for the physician to treat.

Early prostatic operations are not dangerous; late ones are always dangerous, and frequently fatal. The general practitioner has the fate of the prostatic in his hands, either to guide him over his trouble or to advise him to continue a life of miserable suffering which intensifies itself toward the end.

We are examining old rather than young men for prostatic enlargement, and in so doing are getting the big rather than the little end of the dilemma.

The Present Status of Blood Examination in Surgical Diagnosis.

Frederic E. Sondern (*Medical Record,* March 25, 1905) from 1400 blood counts in surgical diseases has drawn the following conclusions: (1) A relative percentage of polynuclear cells below 70, with an inflammatory leucocytosis of any degree, excludes the presence of gangrene or pus, at the time the blood examination is made, and usually indicates good body resistance toward infection. (2) An increased relative percentage of polynuclear cells, with little or no inflammatory leucocytosis, is

still an absolute indication of the inflammatory process, and the percentage is a direct guide to the severity of the infection. In children, where the polynuclear percentage is normally lower than in adults, there may be pus or gangrene, with the percentage as low as 73. In adults a purulent exudate or a gangrenous process is decidedly uncommon with less than 80 per cent of polynuclear cells, and the probability of their presence increases with the percentage. (3) An increased relative percentage of polynuclear cells with a decided inflammatory leucocytosis is the typical picture in most cases of inflammatory lesions. In general, therefore, it may be said that a marked leucocytosis indicates a good body resistance in cases in which the polynuclear count is relatively high—that is, the percentage of polynuclear cells is an index of the degree of the inflammatory lesion, and the total leucocytosis should always be studied with it in mind.

A Case of Cicatricial Stricture of the Esophagus.

A. B. Atherton (*Medical Record*, March 11, 1905) describes a case of obstinate cicatricial stricture of the lower end of the esophagus which when first seen admitted only an olivary French bougie two millimeters in diameter. By gradual dilatation it became possible to introduce an instrument of twice this size, but after this no further stretching could be effected. The stomach was therefore opened and the stricture softened by the use of the string-and-bougie procedure of Abbe, after which gradual dilatation became possible, so that a short rubber bougie one centimeter in diameter could be permanently worn. The upper end of the bougie lay at the junction of the pharynx and esophagus, and was secured by a silk thread fastened to a tooth or to one ear. When last heard from, a year after the operation, the patient was still obliged to continue the daily use of the bougie, otherwise the stricture soon contracted.

MEDICINE.

Yellow Fever.

At a recent meeting of the Paris Academy of Medicine, M. Chantemesse (*Lancet*, March 11, 1905) discussed this important subject. He showed by the recital of some remarkable facts how the theory of the propagation of the disease by mosquitoes agrees, so far as prophylactic measures are concerned, with the conclu-

sions arrived at by medical men of the last century after a series of patient observations. The Academy of Medicine had previously noted the forty-third parallel of north latitude as the limit of yellow fever, and this is the frontier line of the habitat of the stegomyia. The prophylactic measures taken against yellow fever are the following: the stegomyia must be suppressed in every possible way; both sick and healthy must be protected from mosquito bites by means of masks, gloves, mosquito nets, and gauze window blinds; and all receptacles for water must be kept under surveillance, and no stagnant collections allowed in which eggs may be laid or larvæ hatched. A strict watch over cargo is unnecessary except in the case of wet goods, such as moist wood, bananas, or fresh fruit. Ships coming in from an infected port should be inspected especially as regards ventilation, the cook's galley, and the stoke-hole, or any other place where pools of water are likely to occur. If no case of yellow fever has occurred on board during the voyage free pratique may be granted, and without any disinfection measures being carried out. If one or two cases obviously contracted in the infected port should have developed on board and not have given rise to any others free pratique may again be given, and no restrictions need be placed on the crew, their effects, or the cargo. If, however, infection has occurred on board precautions must be adopted. The cargo must be removed and the ship thoroughly fumigated with sulphurous acid. If the cargo in whole or in part is of such a nature as to afford shelter to mosquitoes it must be fumigated in the same way. Sailing ships will require even more careful attention than steamers. Persons suffering from yellow fever on arriving in port must be taken to hospital, but in ports where there is no lazaretto they may be sent to the ordinary hospital. Finally M. Chantemesse is of the opinion that in France at any rate yellow fever need not be considered as an infectious disease.

Gonococcus Infections in Children.

L. Emmett Holt (*New York Medical Journal,* March 25, 1905) says that we must recognize gonococcus vaginitis as a very frequent disease and one to be constantly reckoned with in institutions for children. It is also very frequent in dispensary and tenement practice, and not uncommon in private practice of the better sort.

In its milder forms and in sporadic cases it is extremely annoying because so intractable; in its severe form it may be

dangerous to life through setting up an acute gonococcus pyemia or infection of the serous membranes; and in its epidemic form it is a veritable scourge in an institution.

The highly contagious character of gonococcus vaginitis makes it imperative that children suffering from it should not remain in the same wards or dormitories with other children. A similar danger, though less in degree, exists with the gonococcus ophthalmia and acute gonococcus ophthalmia, and acute gonococcus arthritis or pyemia.

It is practically impossible to prevent the spreading of the disease if infected children remain in the wards with others. They must either be excluded from the hospital, or if admitted immediately quarantined.

Cases of gonococcus vaginitis can only be excluded from hospital wards by the systematic microscopic examination of smears from the vaginal secretion of every child admitted. If a purulent vaginal discharge is present, such examinations are imperative, and should be made as much a matter of hospital routine as the taking of throat cultures in children with tonsillar exudates. In the absence of microscopical examinations a purulent discharge in a young child may be assumed to be due to the gonococcus.

The quarantine to be effective must extend to nurses and attendants as well as to children. Furthermore, the napkins, bedding, and other clothing of infected children must be washed separately from that of the rest of the house.

Where the gonococcus is found with no vaginal discharge or with a very slight discharge, children should also be quarantined, although it is impossible at present to say to what degree such cases may be dangerous in a ward. One of the greatest difficulties in connection with the gonococcus vaginitis arises from the prolonged quarantine rendered necessary from the fact that these cases are of very chronic character and very resistant to treatment.

The danger to nurses from accidental infection, especially in the eyes, is considerable. At the present time they are not sufficiently instructed in this respect.

Flies as Carriers of Contagion.

G. H. Aiken (*California State Journal of Medicine*, March, 1905) says that as a pure water-supply is absolutely essential to the preservation of health, it should be carefully protected from every possible means of pollution.

Milk from the time it is drawn from the cow's udder to that of consumption should receive the utmost care, be screened thoroughly, and guarded from flies and every avenue of contagion.

The privy vault and toilet should be properly located and constructed, ventilated, and screened, kept absolutely free from flies, and all dejecta from typhoid patients and those with other contagious diseases made sterile by disinfection.

We should urge upon people the necessity of screening their dwellings, meat, and all articles of food from contamination by flies.

As manure and other filth and débris are the breeding centers for flies, it should not be allowed to accumulate.

Special attention should be given to the cleaning of the public streets and gutters, and proper disposal made of this fly-breeding material.

By the strict observance of such sanitary measures a successful warfare can be waged against the pollution of water, the contamination of food, and dissemination of contagion by this pernicious little insect. To this end it becomes the duty of every physician, but especially health officers and boards of health, to enlighten the public and educate them to the dangers of contamination and contagion, and the value of the strict observance of all sanitary laws.

As "prevention" is to be our motto during the present century, let us safeguard every public and private sanitary interest with a jealous care, looking to the future for the full fruition of our hopes and rewards.

Etiology of Physiologic Albuminuria.

Von Leube (*Deutsche med. Wochenschrift,* No. 31, 1904) states that the physiologic albuminuria of puberty is due to defective or excessive development, which later regulates itself. Some of the other cases of physiologic albuminuria are, he says, due to congenital overporosity of the filtering membrane of the glomeruli; this condition is often met with in several members of one family. The opposite condition is sometimes observed where there is a relative impermeability of the filtering membrane. In 109 cases of heart disease at the author's clinic on which autopsies were later held, four of the patients had shown no albuminuria during life; this indicates that in these patients the renal filter must have been extremely non-porous.

Raw and Cooked Milk.

Brunning (*Münch. med. Wochenschrift,* No. 8) took four young dogs of the same litter. Two were left with the mother; one was fed on raw and the other on cooked cow's milk. The first two animals thrived, while the growth of the one receiving the cooked milk was retarded, and it evidenced a distention of the abdomen, although otherwise it was apparently healthy. The one receiving the raw milk was one-third the weight of those left nursing; it also showed internal disturbances, as well as changes in the bony structures.

Transmission of Disease Through the Communion Cup.

Roephe (*Deut. med. Wochenschrift,* No. 21) urges the necessity of individual communion cups, especially in summer resorts, sanatoria, and similar places. He states that the only way to prevent transmission of infection is for each individual to have a private cup which is kept in his possession. The author's experiments show that turning the cup and wiping the rim with a napkin is insufficient. He refers to two cases of syphilis in which the disease was unmistakably transmitted from one person to another by the use of a common glass in a saloon.

Functional Test of the Diseased Heart.

Herz (*Deut. med. Wochenschrift,* No. 4) suggests that patients be examined as to the condition of the cardiac muscle by flexing and extending the forearm. The pulse is counted before and after this exercise, and if the heart is in a normal condition there is no increase in the pulse-rate, though in disease of the myocardium, particularly in atheroma, there is a decrease. In nervous and neurasthenic patients the pulse-rate is increased.

Transmission of Precipitin.

Merkel (*Münch. med. Wochenschrift,* No. 8) treated a number of guinea-pigs, both male and female, with injections of human blood serum. One of the females became pregnant and gave birth to young. The blood was at once taken from these young pigs, and the serum was found to contain an active precipitin, though giving a less intense reaction than that of the mother.

THERAPEUTICS.

The Treatment of Lupus in General Practice.

A. Drew (*British Medical Journal,* Feb. 11, 1905) says that the treatment of lupus by means of Finsen light and by Roentgen rays is so expensive and so lengthy that for all practical purposes it does not lie in the power of the general practitioner to carry it out. He has employed a method which must be considered satisfactory to the practitioner, since it yields good results and is easy of application. The affected places are first frozen until they are snow-white with ethyl chloride, and the part is thoroughly rubbed with crude hydrochloric acid, saturated with chlorine. The best method is to wrap a piece of cotton-wool around a wooden match or other piece of wood and to dip the wool into the acid. The rubbing must be carried out immediately the surface is well frozen, and is to be continued until the nodules take on a grayish-white color. As soon as the burning has been accomplished the surface must be covered with a powder, and the author prefers eugoform to all others. No bandage or other dressing is necessary. The wool must be repeatedly dipped into the acid, as the melting of the ethyl chloride dilutes it, and in order to protect the surrounding skin and the fingers of the surgeon it is well to press a pledget of wool firmly on to the skin around the nodule. Only the surface should be cauterized, for if one allows deep action to take place the result will be unsightly scarring. In the cases of (1) lupus of the interior of the nose, (2) lupus multiplex, (3) when freezing is not tolerated, or (4) when energetic cauterization is desirable—such cases as tuberculous ulcers with purulent sloughs, lupus hypertrophicus, or verrucosus—he finds it wise to employ general anesthesia by chloroform. A day or two after the surface cauterization a grayish-brown scab forms, which falls off after from two to four weeks. With the separation of the scab the more superficial nodules of lupus fall out, while only the deep-seated ones remain. Later these may be recognized by means of the "diascope" as brown punctate formations. When many of the deep points lie close together they may be treated by surface cauterization, and the resulting surface will be freed from lupus nodules in the course of from three to six months, the surface being covered by epidermis. When the points are seen singly they can be burned by means of glass tubes which are obliquely pointed, and in which the acid is allowed to enter by capillary attraction. One must

not apply the point of the tubes closer to one another than one centimeter, as otherwise the zone of cauterization may run together. The point must be stabbed into the nodule, which has to be marked before the freezing is begun. The author relates the clinical histories of cases treated by these means. Turning to the histological side of the question, he finds that the acid produces an emigration of white blood cells immediately in tuberculous or lupus tissue. The blood-vessels are dilated to their greatest extent, and a marked diapedesis and a considerable collection of leucocytes outside the vessels can be observed. In conclusion, he lays considerable stress on the fact that the method is cheap, simple, and that the cosmetic results are very satisfactory.

The Value of Radiotherapy in Glandular and Cutaneous Diseases.

R. H. Boggs (*St. Louis Medical Review,* March 18, 1905) says that it is necessary to distinguish between the diseases which should and those which should not be treated by the *x*-ray.

While the continual cry of technique may become tiresome to some who think the subject can be mastered in a few days or a couple of months, the method of application of the rays and the judgment of the operator account largely for successful or unsuccessful work.

It is just as essential to administer a therapeutic dose when applying the Roentgen rays as it is when prescribing powerful drugs.

Idiosyncrasy is not a frequent cause of excessive dermatitis. A dosage that causes stimulation of healthy tissues will usually produce a slight reaction in diseased tissue.

At all times it should be remembered that it is not so much the *x*-ray that cures as the judgment with which the rays are employed.

The *x*-ray is one of the best therapeutic agents known for the treatment of acne and many other skin diseases, but it is unnecessary in many instances to treat the trivial and less obstinate cases by this method.

The *x*-ray, supplemented by the Finsen light, is the most efficient therapeutic agent for the treatment of lupus.

The *x*-ray is the most efficient agent for the treatment of certain tuberculous glands, Hodgkin's disease, and selected cases of goitre.

Unless the operator has had a wide experience in the treatment of carcinoma, he should always consult a surgeon in each case, as it is certainly by the combination of surgery and the *x*-ray that the best results can be obtained.

The Limitations of the Value of Nitroglycerin as a Therapeutic Agent.

H. P. Loomis (*Medical Record,* March 18, 1905) says that the usual dose of nitroglycerin (1-100 grain) is too small to produce any effect in pathological conditions; 1-50 grain is a minimum dose.

It is a perfectly safe drug to use. Even in the large and repeated doses used the writer has never seen any ill effects.

High arterial pressure in man is not perceptibly affected by it, nor is dilatation of the blood-vessels apparent.

Its effects are very transient, as shown by experiments on dogs, and the ordinary dose of 1-100 grain every four hours could not possibly have any effect on the arteries.

Nitroglycerin is said to increase the quantity of urine in chronic Bright's disease, but after keeping accurate records of the daily amount of urine passed, he has never been able to satisfy himself that any increase seen was due to this drug.

He believes that in conditions due to arterial spasm so called, such as angina pectoris, migraine, and asthma, nitroglycerin may be of benefit, in full doses often repeated, but not in arterial sclerosis, where the arteries themselves are more or less changed.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Hernia of Gravid Uterus; Porro's Caesarian Section During Labor.

D. Rosner (*British Medical Journal,* March 11, 1905) in a paper including notes on the literature of the subject describes a case in his own experience. The patient was thirty years of age, and had borne four children; the last confinement occurred six years before she came under observation. For two years she had noticed a ventral hernia, and now she had become pregnant. Rosner found that she was in the sixth month of pregnancy; the

increase of the hernia caused her great pain. The body of the uterus occupied the sac; the fetus lay in it entirely external to the neck of the sac, which had a sharper border. The patient imprudently refused to allow of taxis under an anesthetic. Labor set in at term; it lingered for two days, and then it was found that reposition was impracticable. The cervical canal was patent up to the os internum, which was quite closed. Rosner opened the sac and extracted from the uterus a cyanosed fetus, which was resuscitated, but died within a few hours. The empty uterus could easily be reduced, but the os internum was stenosed, so that Rosner dreaded accumulation of septic matter in the uterine cavity; and as he found that he could not easily close the neck of the sac in front of the bulky, reduced uterus, he amputated the body above the cervix, sewed the peritoneum over the stump, which he reduced, and lastly repaired the ventral hernia. The patient did well.

A Case of Postpartum Hemorrhage.

The following is reported by John F. Bennett, Detroit, Mich.:

In 1896 I confined Mrs. V. Delivery was in every way normal until the completion of the third stage of labor, when an active hemorrhage was encountered. The blood poured forth from the vagina in large jets. Compression of the uterus seemed to have little effect. Two drachms of fluid extract of ergot was immediately given by mouth, the head was lowered and feet elevated, and large quantities of water as hot as it could be borne were carried inside the uterus. At the same time compression and kneading of the uterus was actively performed through the abdominal wall. It was not until after the patient had become markedly exsanguinated, pulseless, unconscious, and practically in a state of collapse that the hemorrhage could be checked. It took her some time to rally from the shock, but she finally fully regained her health.

Some three or four months ago I was again engaged by the same woman to perform a like service. Had it not been that it seemed somewhat cowardly and not exactly the best thing to do from a financial standpoint, I would have refused to again take the responsibility of the case; however, I responded to the call on the afternoon of December 17, 1904.

Delivery was similar to the first, perfectly normal; but immediately upon delivery of the placenta an active hemorrhage appeared precisely as it had eight years previously. But this time

I was ready for the attack. I had filled my hypodermic syringe with fluid ergot, aseptic, P., D. & Co., 20 minims, which I injected in the cellular tissue on the inner side of the thigh. I had, in readiness to be used, a four-quart fountain syringe filled with as hot water as could be borne; I removed the syringe nozzle and inserted the rubber tube to the fundus of the uterus, and with the left hand compressed the uterus through the abdominal wall, and held the tubing in place with the right.

In five or six minutes (I was unable to observe the time accurately, but believe this would cover it approximately at least) the active hemorrhage had ceased, and my patient had not lost blood sufficient to cause any great fall in blood-pressure; she did not faint or lose consciousness, and upon the whole was in a very good condition. As soon as I thought it safe to remove my hand from the uterus I repeated the dose of aseptic ergot as a prophylactic measure against further hemorrhage.

She made an uneventful recovery, and was about her work in nine or ten days. I attribute the prevention of a repetition of my former experience with this woman to the prompt action of the aseptic ergot, assisted by the use of hot water applied internally to the uterus.

Placentation in Woman.

B. Friolet (*British Gynecological Journal,* March, 1905) after verification of the work of others and some original researches, comes to the following conclusions: The ovum buries itself in the mucosa and is not, as was believed, walled in by the cells of the mucous membrane. The intervillous space probably arises after the manner of the formation of a massive trophoblastic calyx, and afterward becomes altered into a blood space with an interspersed scaffolding, and from the members of this scaffold the chorionic villi are formed by the ingrowth of the fetal mesoblast of the wall of the germinal vesicle. The intervillous space has nothing to do with the cavum uteri, and undoubtedly from the beginning has the function of a blood sinus. The villous epithelium in its early stages consists of a double layer of cells, Langerhans's layer and the syncytium, the latter probably derived from the fetal ectoderm, with fine ciliæ externally. The question of the origin of the syncytium is unsettled, but Friolet's own researches all suggest that it is derived from the trophoblast. When fully formed the syncytium appears to be independent of Langerhans's layer.

THE MEDICAL AGE

Vol. XXIII. DETROIT, MAY 10, 1905. No. 9.

ORIGINAL CONTRIBUTIONS.

FISTULA IN ANO—ITS DIAGNOSIS AND TREATMENT.

BY WM. C. MARTIN, M.D., DETROIT, MICH.

Of all the ills to which the human flesh is heir no more distressing one exists than the condition known as fistula in ano. The disease is one of great antiquity. We read of it in the writings of the earliest physicians. History tells us that Henry V. of England came to an untimely end through being afflicted with a fistula in ano. The condition is one that affects all grades of society, and is by far the most common of all rectal ailments. One has only to glance at a hospital report to see how great is its frequency.

In regard to the etiology of an anal fistula it may be congenital, or secondary to an abscess—the latter being the most common cause. Cases are on record which have been caused by suppurating dermoid cysts that existed between the rectum and sacrum. The opening of an abscess in the anorectal region is almost certain to leave a fistulous tract in its wake after the shrinking in of the abscess walls. This usually tortuous channel fails to heal on account of the great activity of the muscles used in defecation and urination. We are more apt to find fistula in ano affecting males during middle life, although youth and age are by no means exempt. The rôle played by tuberculosis in the causation of this affection is not certain. Syphilis is known to cause it by the breaking down of gummata which may occur in the region of the rectum. Where this disease is the cause it becomes necessary to carry out a vigorous antisyphilitic course of treatment in order to effect a cure.

Fistulas are classified as (*a*) complete and (*b*) incomplete, and (*c*) external or (*d*) internal. A fistula whose opening is external to Hilton's white line is termed an incomplete or blind external fistula. A fistula that opens internal to this line is an

incomplete internal fistula. The complete variety has two openings, one external and one internal to Hilton's line. The blind external fistula is one that causes the least amount of trouble: about the only symptoms the patient has are an itching sensation with moisture, and now and then he may be able to obtain a tiny amount of pus. This condition often exists for years, the individual allowing it to go on without any interference. On examination there is usually a hard nodule noticeable under palpation, in the center of which a tiny opening is visible. The introduction of a probe will usually show the length and direction of the fistulous tract. Failure to follow the tract with a probe sometimes happens owing to its angular course. "In examining a fistula, if the probe passes higher up along the rectum than just above the sphincters, or two or more fistulous tracts parallel to each other run farther up, a more deep-seated cause should be looked for. As a rule, it will be found to be caries of the inner surface of the sacrum, which can be recognized by an elastic swelling behind the rectum, or by local tenderness. Parametric abscesses must be considered in women" (A. E. Albert: Diagnosis of Surgical Diseases, 1902).

The use of the probe in the examination of fistulas calls for much gentleness; force never should be used on account of the great liability to make false passages. "It must not be forgotten that the connection between the mucous and muscular coats of the bowel is comparatively lax, and that a large steel director, roughly used, will pass with great readiness through the submucous tissue, and will give rise to conceptions of burrowing sinuses, which exist only as the results of the surgeon's bungling" (Treves: Manual of Operative Surgery).

In order to ascertain if a fistula be complete or not it is necessary while probing to pass the forefinger of the left hand into the rectum, and in this manner the site of the internal opening can be found if any exists. Cases that are doubtful should be examined with the aid of a rectal speculum. The obscurity of the symptoms in blind internal fistulæ makes the diagnosis often a most difficult matter. Patients will often complain of a general feeling of lassitude, accompanied with more or less vague pains in the thighs and back. The passing of blood and mucus with painful defecation are almost certain indications of a blind internal fistula.

In examining a patient for suspected fistulæ either internal or external, a good light, preferably daylight, should be used. Place the patient on his back with his legs held in supports, and have the

buttocks slightly elevated by means of a small pillow. The best speculum to use is a conical fenestrated one or a Pratt bivalve. The pain of an examination may be in part obviated by introducing into the rectum prior to the use of the speculum a small piece of gauze that has been soaked in a 10-per-cent solution of cocaine. The speculum can then be introduced and a careful examination made of every segment of the bowel. Internal openings are usually found in the last inch or two of the bowel, and in the anterior or posterior quadrant. Allingham says that in 90 per cent of cases the opening is between the sphincters. If any doubt exist as to the fistula under examination being complete, it is best to insert a piece of gauze into the rectum and inject the external opening with an aniline stain. Should the tract be complete the gauze on being withdrawn will be stained. Senn says: "The most reliable diagnosis to determine the existence of a complete fistula is to inject through the external opening peroxide of hydrogen. If the fistula is incomplete tension and pain will follow. If it is complete foam will escape from the anus." In the writer's opinion this latter procedure is the most simple that can be followed to make certain of the diagnosis between complete and incomplete fistulas.

Secondary sinuses or diverticula are usually present in old fistulæ. These add much to the difficulty of diagnosis and to the severity of operative measures. A form to be noted is the "horseshoe fistula" so called, in which the sinus surrounds the rectum upon its posterior half, and extends equally upon the two sides, thus undermining the cellular tissue for about one-half the circumference of the bowel (Rectal and Anal Surgery: E. Andrews).

After the surgeon has made sure of the variety of fistula with which he has to deal comes the question of treatment. This is divided into the operative and palliative. Most authorities agree that the palliative form of treatment offers the poorest chance of an ultimate cure. Most individuals prefer to try the palliative treatment, in the hope that they may not be obliged to undergo an operation. This consists for the most part in attempting to cure the fistula by means of the injection of iodine, carbolic acid, or chromic acid. Allingham has cured cases by the use of locally strong carbolic acid. The outer opening should be well dilated, the sinus cleaned out, and a small piece of wool saturated in strong carbolic acid with 10 per cent water passed to the bottom of the sinus. A drainage-tube large enough to fill the sinus is inserted and retained. In the event of this pro-

cedure being successful, a shorter tube is used as the tract heals from the bottom.

A fistulotome has been used by Mathews, who reports curing a number of cases by scarification. Other methods have been tried with varying success, but on the whole operative measures are the most satisfactory and are usually free from risk. The elastic ligature and electrolysis are sometimes successful, but the method most in vogue at present is excision, which usually results in primary union. The operation for the cure of a fistula is not so simple as it would seem; the mere passing of a grooved director through the fistulous tract, and dividing the tissues over it, will not suffice. Considerable dexterity is required to cure a bad case of fistula in ano.

The patient should be carefully prepared in the same manner as for a major operation. Liquid diet should be ordered for several days before operating, and free catharsis should be induced by means of laxative pills. Several hours previous to operating a copious simple enema should be given to thoroughly clean the rectum of any fecal matter that may exist there. The region about the anus should be scrubbed and shaved and a pad of sterile gauze bandaged on. In regard to the anesthetic, if the surgeon decides that he can perform his work properly within fifteen or twenty minutes, nitrous oxide gas can be used advantageously. It is preferable to either chloroform or ether, being practically without danger, and leaves none of the disagreeable after-effects of the other anesthetics. Of course, nitrous oxide gas can only be used where the operator can work in a modern hospital, or can engage the services of a dentist who uses it in his practice. Local anesthesia with beta-eucaine and adrenalin has been employed by a number of surgeons, who report its use as being most satisfactory.

A. J. Barker, of London, uses a solution of adrenalin and beta-eucaine for operating on rectal fistulas. The solution used by Barker is prepared as follows: Powders of beta-eucaine and pure chloride of sodium sufficient to make 100 cubic centimeters (=3½ ounces) of the solution are kept in thick glazed paper ready for use. The amount of each of them is beta-eucaine 0.2 gramme (=3 grains), and pure chloride of sodium 0.8 gramme (=12 grains); 100 cubic centimeters of boiling distilled water is measured off, and to this the contents of one of the papers is added, and then one cubic centimeter of Parke, Davis & Co.'s solution of adrenalin chloride when the solution is cool. As the adrenalin preparation is of the strength of 1:1000, it makes 100

cubic centimeters of normal saline solution with 2 in 1000 beta-eucaine and 1 to 100,000 of adrenalin chloride in it—*i.e.*, distilled water, 100 grammes; pure chloride of sodium, 0.8 gramme; beta-eucaine, 0.2 gramme; and adrenalin chloride, 0.001 gramme. (Barker, London *Lancet,* July 25, 1903.)

Gant, of New York, uses sterilized saline solution by injection, which he reports will do the work as well as cocaine. The blind external fistulæ should be freely incised, and all particles and fibrous bands carefully obliterated by the use of a sharp curette. The incision should be made into the posterior wall of the tract to allow granulations to spring through. In the complete variety a grooved director is passed into the external opening and into the bowel, and the knife passed along the groove, thus dividing the tissues that intervene. Scissors may be used instead of a knife, either with or without a director. Whenever the depth of the sinus demands the division of the entire thickness of the internal sphincter, it should be done at right angles with the course of the fibers, to avoid, as far as possible, the danger of incontinence of flatus and feces. When it is possible to avoid it the sphincter should not be divided at all, and at all events only at one situation at a time. All hemorrhage should be stopped, and firm packing of sterilized gauze should be introduced for the purpose of drainage and to prevent the union of the skin margins until the sinus heals from the bottom. The complete variety of fistulæ requires the same procedure in regard to the use of the curette as does the incomplete.

If the operator decides to close the wound after incision, and the extent of the tract will admit of it, the tract should be removed by dissection and closed by catgut sutures carried deep enough to bring the walls of the wound in contact with each other. Two rows of chromicized catgut sutures should be employed: one, a deep row, which should bring the borders of the mucous membrane and the deeper structures together; while the other should unite the superficial parts. In this manner union by first intention may be secured, thus shortening the period of recovery and obviating all danger of fecal incontinence dependent upon the incomplete closure which sometimes occurs when the cut is deep and is permitted to heal from the bottom. Great care should be exercised to secure fluid movements at first to prevent undue strain on the lines of suture.

A number of surgeons advocate the use of the elastic ligature in the treatment of anal fistula. This means of treatment is painless, and in order to apply it an anesthetic need not be adminis-

tered. It causes no hemorrhage, and the patient can move around while the ligature is doing its work. Many patients will submit to be treated by ligature who would not allow an operation to be performed on them.

If the fistula is not a deep one a director with a probe point is passed into the external orifice along the sinus and into the bowel. The point of the instrument is caught with the finger and is made to emerge from the anus; an eyed probe, armed with the ligature, is passed along the groove of the director, the probe and director are withdrawn, and the ligature is left in place, and when it is tied all of the tissue can be constricted. If the fistula is deep and passes beneath the sphincter, the ligature cannot be inserted in the manner just advised. A long probe will be needed, and this probe must be bent so as to enable it to follow any particular deviating track. The elastic ligature which is used is round. It is applied as tightly as possible without causing pain, and the ends are passed through perforations in a pewter button and fastened by bending the button with forceps. The process of healing follows close upon the process of cutting, and when the ligature has cut its way out the wound is nearly healed. If a silk ligature is used, it has to be tightened every day. This is effected by tying a new ligature to the old one, drawing the new one in place and tightening it. It takes on an average two weeks to complete the cure, the patient moving around during the entire course of treatment.

PSEUDOCYESIS.

BY Q. W. HUNTER, M.D., LOUISVILLE, KY.

From many standpoints (medical, social, medicolegal, moral, etc.) an accurate early diagnosis in suspected pregnancy is of the utmost importance, although it must be admitted that differentiation between the true and the false variety is oftentimes difficult, if not quite impossible, as will be hereinafter more fully indicated.

Several eminent authorities, notably Pajot and Charpentier, have recently stated that there never existed such a thing as a spurious pregnancy. While literally this statement may be true, figuratively there are many conditions the symptoms of which so closely simulate those incident to cyesis that to make a positive diagnosis based upon subjective and objective signs without prolonged observation and study of the individual case is a matter

of utter and absolute impossibility, the opinions and assertions of others to the contrary notwithstanding.

One fallacy concerning false pregnancy is the existing impression that it occurs only in hysterical women, or in those previously sterile who have arrived at the age when the climacteric may reasonably be expected. Pseudocyesis is much more common at all ages than is generally supposed, and is not unknown as early as the fifteenth year, though most instances are observed between the ages of forty and forty-five. In the majority of cases a distinct neurotic element is a predominant factor, which has doubtless led to the popular error that pseudocyesis never occurs except in hysterical subjects at or about the menopause.

The symptoms incident to spurious pregnancy do not differ in any essential feature from those usually observed in cases which admit of little doubt as to the existence of true gestation, hence the statement that a clear differentiation based upon superficial inspection is an utter impossibility, for at no time from conception to the fourth month of uterogestation can the positive assertion be substantiated by objective, subjective, or individual phenomena exhibited, that impregnation has or has not taken place; and even the most careful and painstaking physical examination possible may fail to confirm or disprove the existence of cyesis. Diagnostic errors in this connection are extremely frequent, though in justice to the medical attendant be it said that the fault does not always rest with him; he is more often than otherwise grossly misled by the applicant, and thus his judgment is based upon false premises. First, he may be consulted by a married woman who earnestly desires a child, who firmly believes herself to be pregnant, and so declares to the attendant; secondly, by a single woman who desires to be pregnant, and who swears that she is, with the view of obtaining medical confirmation in order to consummate a desired marriage, or for other fraudulent purpose; thirdly, by a widow or other unmarried female who has secretly permitted sexual embraces and is actually *enceinte,* although she emphatically and indignantly denies both exposure and possible pregnancy. In either event the physician receives information decidedly at variance with actual facts, and in consequence is placed in a disadvantageous position in attempting to reach a decision based upon existing phenomena and the clinical history thus obtained. Finally, knowing that there are no absolutely infallible early signs of cyesis, that the symptoms of numerous other conditions may so closely simulate those resulting from normal pregnancy that mistakes may be easily made, that pseudo-

cyesis and other abnormalities have oftentimes been mistaken for true uterogestation, the judgment of the attendant, though unquestionably honest, may be entirely erroneous for the reasons cited.

Despite being accused of repetition, the writer desires to emphasize the fact that many of the usual symptoms of pregnancy are simulated with extraordinary exactness in most cases of pseudocyesis—*e.g.*, there may be protracted amenorrhea, nausea and hyperemesis, characteristic mammary changes, turgescence of the nipples, enlargement of the abdomen, etc.; but based upon these data neither a diagnosis of true or false pregnancy can be positively made. As a matter of fact every sign of pregnancy, including fetal movement, may be so closely approximated in pseudocyesis that the most erudite clinician may be misled; he may make grievous error, reflecting serious discredit upon himself, unwittingly and unintentionally inflicting irreparable injury upon the morale of an innocent female, and an injustice to her family and friends.

It is an old adage that all signs sometimes fail, and when applied to cyesiognosis this contains an abundant measure of truth.

Perhaps the most noteworthy historic case of pseudocyesis is that of Queen Mary of England. To insure the succession of a Catholic heir she was most desirous of having a son by her consort, Philip, and constantly prayed and earnestly wished for pregnancy. Finally her menses ceased, her breasts began to enlarge, and the areola became discolored. She suffered violent morning-sickness, and her abdomen progressively enlarged. Consultation with the ladies of her court resulted in her opinion of pregnancy being strongly confirmed. When the end of the ninth month approached the people were awakened one night by joyous peals of the bells of London announcing the new heir. An ambassador had been sent to tell the pope that Mary could feel the new life within her, and the people rushed to Saint Paul's to listen to the venerable archbishop describe the baby prince and give thanks for his deliverance. The spurious labor pains passed away, and after being assured that real pregnancy did not exist, Mary went into violent hysterics; and Philip, disgusted with the whole affair, deserted her.

Pohl relates the case of a woman aged twenty years who had all the most complete phenomena of pregnancy, and about the end of the ninth month a nurse was called and preparations made for immediate parturition. The first stage of labor appeared to

commence typically. The patient was put to bed, the bath prepared for the new-born, and thinking to assist in the parturient process the nurse began to rub the sacrum to facilitate uterine contractions. At first the woman had menstruated regularly, but this had latterly entirely ceased. After twelve hours of waiting a young obstetrician was called, who found "parturition" to be difficult, and prescribed hot baths and hot vaginal douches. Several hours later an old obstetrician was summoned, who confirmed the diagnosis and requested that he be recalled when the uterine orifice should be dilated to three inches. After further delay the old obstetrician was again sought, but not being found Pohl was called, and the true facts were finally elicited. It was simply a case of spurious or phantasmal pregnancy (imaginary or psychic gestation).

According to Pohl four conditions are necessary for the construction of this phantasmal phenomenon: (1) An irresistible desire to become pregnant. (2) A complete knowledge on the part of the patient of the symptoms of pregnancy, and corresponding changes in the organism. (3) A continued examination of herself on the part of the patient, with a view of interpreting (in accordance with her desires) the first symptoms that can be compared with those of pregnancy. (4) A mistaken diagnosis on the part of the nurse or obstetrician, in support of the autosuggestion of which the poor woman is already the victim. He claims that a woman would be unable to construct such a phantasmagoria had she not at another time familiarized herself with all the facts relating to pregnancy.

Dupre says general paralytics often imagine themselves pregnant, and that he has always found such cases connected with hysteria. In one, a woman aged thirty, with distinct somatic and psychic symptoms of general paralysis, temporary mental confusion, hebetude, and obtusion of the intellect, the pseudocyesis was expressed by most characteristic external appearances, the volume and shape of the abdomen being significant, even the gait specific of her imaginary condition. Direct examination proved that neither pregnancy nor any abnormal condition of the genitalia existed; but when so informed she merely smiled incredulously, persisted in her belief, and had the lying-in linen prepared. The menstrual flow did not reappear until after expiration of the supposed normal term. The abnormal size of the abdomen disappeared some time later.

A woman who had borne several children, and had suffered severely during previous pregnancies, passed five years without

becoming impregnated, then missed a period, and as usual had persistent vomiting. She made some wild efforts to terminate her supposed pregnancy, but failing acquiesced in her fate. Menstruation returned at the ninth month and was presumed to mean labor; meanwhile vomiting continued up to the eighth month, and she ate little. Nevertheless she progressively took on fat, the abdomen and breasts becoming so immense as to excite unusual attention. No physician examined her until the supposed labor began, when of course the truth was ascertained—that she was not pregnant. The excess adipose tissue disappeared in two months.

A lady thirty years of age married an old man, who died, leaving her the customary legal share of his vast estate, the remainder to go to distant relatives provided his wife had no heir. For several months before his death the woman, who had been very anemic, ceased to menstruate, became certain she was pregnant, and took on flesh in a manner which seemed to justify her belief, her breasts and abdomen being the chief sites of this overgrowth. Menstruation had not reappeared, her pallor increased, fetal movements were felt, and every preparation made for delivery. After careful examination by two physicians she was assured of the absence of pregnancy. The tenth month found her of immense size and still positive that she was *enceinte,* and at the twelfth month the menstrual flow returned, which she was sure meant the beginning of labor. When this had passed she became convinced of her error, and immediately began to lose weight at the rate of half a pound per day, despite every effort to limit the remarkable loss. At the end of two months she had parted with fifty pounds and was less anemic. The woman at this stage became markedly hysteric.

A woman who had previously given birth to several children became ill with some affection of the chest, which was followed by edema. For fifteen months she was confined to bed, and had no sexual intercourse with her husband during that time. Menstruation ceased, her mammæ became engorged and discharged a serous lactescent fluid, her abdomen progressively enlarged, fetal movements were felt, and as in her former pregnancies she suffered nausea. Under the circumstances her husband quite naturally considered pregnancy impossible; still she insisted she was *enceinte,* and this belief was confirmed by a midwife. Her abdomen continued to increase in size, and about eleven months after menstruation ceased she had characteristic labor pains. Three doctors (?) and an accoucheur (?) were present, and when

they claimed the fetal head presented the husband became convinced that pregnancy existed, and that his wife had been guilty of violating her marriage vows. The supposed fetus was born shortly afterward, and proved to be only a mass of hydatids, with not a sign of true pregnancy.

Girard mentions a female who had several times been pregnant, and who again experienced the characteristic signs. Her mammæ were engorged with a lactescent fluid, she felt belly movements like those of a child, but menstruation regularly continued. Her abdomen progressively increased in size, and between the tenth and eleventh months she experienced what she thought to be labor pains. These false pains ceased after a bath, and with disappearance of the other signs was dissipated the fallacious idea of pregnancy.

A young girl presented all the characteristic symptoms of pregnancy, and confessed to her parents that she had permitted sexual intercourse. The parents immediately prosecuted the supposed seducer by strenuous legal methods, but when the ninth month came, after the use of several baths, all the signs of pregnacy vanished.

Putnam cites the case of a healthy brunette aged forty years, the mother of three children. She had strong, abrupt, vertical abdominal movements, her breasts were enlarged, the areolæ dark, and the uterus contained an elastic tumor, heavy and rolling under the hand. Her abdomen enlarged to the regular size of matured gestation. The extra-uterine pregnancy which was supposed to have existed was not seen at the autopsy, nothing more than an enlarged liver being found.

Madden gives the history of a primipara aged twenty-eight, married one year, to whom he was called. She was lying in the usual obstetric position, crying loudly, and pulling hard at a strap fastened to the bedpost. She had partial cessation of the menses, and had complained of tumultuous movements of the child and overflow of milk from the breasts. Examination showed the cervix low down, the os small and circular, and no signs of pregnancy about the uterus. The abdomen was distended by tympanites, and the rectum much dilated with accumulated feces. Madden told her she was not pregnant. She appeared at his office a few days later and was reassured of the non-existence of pregnancy, when she became very indignant, triumphantly squeezed lactescent fluid from her breasts, and insisting that she could feel movements, left to seek a more sympathetic accoucheur.

Underhill describes a woman as having acquired the most accurate description of the breeding symptoms, and with wonderful facility imagined that she felt every one of them. He found the woman on a bed complaining of severe labor pains, biting a handkerchief, and pulling on a cloth attached to her bed. The finger on the abdomen or vulva elicited symptoms of great sensitiveness. He told her she was not pregnant, and the next day she was sitting up, and the simulated throes of labor which she had so graphically pictured had ceased.

Haultain gives three examples of pseudocyesis—the first with no apparent cause, the second due to carcinoma uteri, and in the third there was a small fibroid in the anterior wall of the uterus.

Croon relates the case of a child on whom he performed ovariotomy for round-celled sarcoma. At the age of seven years she had been raped several times by a boy, in consequence of which she had constant uterine hemorrhage. Shortly after the first coitus her abdomen began to enlarge, the breasts to develop, and the areolæ to darken. In seven months the abdomen presented the signs of pregnancy, the cervix was soft and patulous, the sound entered three inches and was followed by some hemorrhage. The child was well developed, the mons was covered with hair, and all the associate symptoms tended to increase the deception.

A girl aged nineteen years suffered from an abdominal tumor for four months, which was pronounced after thorough examination by two medical men to be a gravid uterus. The patient indignantly denied this assertion, and the most deplorable family feeling followed. The mistake was not discovered until the lapse of eight months, when an ovarian tumor weighing over a hundred pounds was excised. The error in diagnosis in this case occasioned the most profound grief to a large number of excellent persons.

A healthy young woman married a physician who was an invalid. They had no children, and separated after having lived together three years. The woman subsequently married a healthy and vigorous man. Five months later her abdomen showed signs of enlargement, and she was overjoyed at the prospect of being pregnant. She fancied that she had all the usual symptoms indicative of pregnancy. Menstruation ceased, and she engaged her family physician for the coming event. After eight months had elapsed the abdomen grew enormously. What was claimed as labor pains a month later was sufficient to sum-

mon doctor and nurse to the woman's side. During the physician's examination a severe pain occurred which was followed by a "great gush of water," the abdomen collapsed, and the supposed pregnancy was terminated.

A newly married young woman had at the expiration of five months all the signs of pregnancy, both natural and physical. At the end of what should have been the full term she experienced a "gush of water" minus a fetus, and collapse of the walls of the abdomen, thus terminating what was supposed to be a normal pregnancy.

It is said that pseudocyesis was recognized as early as 1646, when a woman after having laughed heartily at the jests of an ill-bred, covetous clown was seized with various movements and motions in her belly like those of a child, which continued for over a month, when menstruation reappeared and movements ceased. The woman was certain that she was pregnant. Harvey cites several instances of pseudocyesis, and says we must not rashly determine of the inordinate birth before the seventh or after the eleventh month.

Cases of pseudocyesis in women convicted of murder are not uncommon, though most of them are impostors hoping for an extra lease of life. Some cases are of purely nervous origin, associated with muscular distention of the abdomen. Several cases have been reported due to ascites.

REFERENCES.

The Medical Age; International Clinics; *Medicine;* Obstetrics; Legal Medicine (Herold); Anomalies and Curiosities of Medicine (Gould and Pyle); *Medical Times; Journal of Mental Pathology;* Dictionary of Medicine (Quain), etc., etc.

The War Department has been officially advised of the capture at Mukden by the Japanese army of Colonel Valery Havard, of the medical department, who was one of our military attaches with the Russian army in Manchuria. It is unfortunate that the career of this valuable observer representing this government should be thus unceremoniously terminated, but there appears to be nothing left save recall. Major Havard at last account was on his way to Tokio, with the expectation that he would be returned as soon as practicable to this country. Of course he may not remain within the Japanese lines without raising a protest from the Russian government. It is particularly unfortunate that the medical officer must be recalled, since there was much for him to observe in a professional way in Manchuria.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

PROGNOSIS IN DIABETES.

The differing prognosis of diabetes in grave and simple cases of the disease has recently been made the subject of observations by Hirschfield, Von Noorden, and others. It is admitted that in grave cases of diabetes the life limit is usually little more than a year, but this state of affairs does not prevail when the organism is capable of elaborating a partial quantity of the carbohydrate ingested.

Naunyn was accustomed to say that when one sees men possessing this ability to deal with carbohydrate it should not be forgotten in prognosis that they will live for ten or fifteen years without any particular inconvenience arising out of the diabetes. Hirschfield has not been able to accept the optimistic opinions of Naunyn. He finds that the duration of life in diabetes is about as follows: In those of an age from forty-four to fifty the duration of the diabetes will be about five years from the initial date; in those from fifty to sixty it will be six years; and in those from sixty to seventy it will be six and a half years. If the grave cases be eliminated these three categories would give a life duration respectively of eight and a half years and ten years.

Von Noorden seems to hold optimistic views in regard to longevity in simple cases. What, it may be asked, is a simple case? This seems to be usually answered by saying that it is one in which the glycosuria disappears when excessive carbohydrate is withdrawn; or to be more exact, a simple case might be said to be one in which the administration of 100 grammes of carbohydrate produces no glycosuria. Cases of medium gravity may be considered those in which 40 to 50 grammes of sugar are eliminated as a result of the ingestion of 100 grammes of

carbohydrate, as clinically speaking such an amount of carbohydrate cannot originate a greater quantity of glucose. Hochhaus holds that simple cases of diabetes must be considered those in which 100 grammes of carbohydrate do not produce more than 10 grammes of glucose.

In the severer form of diabetes, nephritis forms a grave complication. This has a tendency to occur somewhere between the fourth and seventh year of the diabetes. The polyuria which occurs in the course of diabetes is a favorable prognostic sign as far as the nephritis is concerned.

There seems to be from the standpoint of exact observation little to support the optimistic opinions of Naunyn, and not until the therapy of diabetes is placed on a more positive basis will it be possible to predict for any form of glycosuria a persistent duration of the *status quo*, in which little harm shall result to the organism.

EDITORIAL NOTES.

The Prevention of Tuberculosis Among Soldiers.

In France a system of prevention against tuberculosis has been adopted which if followed by other governments would be the means of saving many lives and much money. In the French garrisons the medical affairs have been so arranged that when a man is observed to be out of health he shall be weighed at intervals, and if his weight is stationary or diminished a physical examination of him is made, especially of the lungs. His temperature is taken several times a day for some days, even although nothing abnormal has been found. If he is out of health and this weight is stationary, but his temperature is normal, he is kept under observation and is not put on exhausting duty. If he is out of health with loss of weight but no rise of temperature, he is placed on the sick list. If he is out of health and losing weight, with a daily rise of temperature, but no physical signs of internal disease, especially in the lungs, he is placed on the sick list for three months. If he is out of health and losing weight, with a daily rise of temperature and suspicious pulmonary symptoms, he is given a temporary discharge. If he is out of health and losing weight, with a daily rise of temperature and affected lungs, whether there are bacilli in the sputum or not, he is discharged ("Reforme No. 2"). On this system an

improvement may reasonably be expected by sending the men home. A man is never sent home in these circumstances without having had fully explained to him the apprehensions which have led to his being placed on the sick list, and also the hygienic precautions which he ought to take.

Bacteria on Money.

We took occasion some time ago to comment on the filthy money which is so universally circulated in this country. Since then a number of experiments have been carried on by the New York Board of Health, with the following results: The germs of only two diseases have been experimented with—tuberculosis and diphtheria—and both of these may be communicated from one person to another on money. Moderately clean bills obtained from a cheap grocery store held 2250 living bacteria, and dirty bills held 73,000. Pennies held only 26, and dimes 40. The experiment was made of placing pennies, nickels, and dimes in the mouths of children suffering from diphtheria. The coins showed no traces of diphtheria bacilli twenty-four hours afterward. The report sums up the results reached thus: Pennies at the end of twenty-four hours gave a growth of diphtheria bacilli when fairly dry; at the end of forty-eight hours they gave no growth. Nickels at the end of twenty-four hours gave a growth at times, but not at others; at the end of forty-eight hours they gave no growth. Dimes gave a growth at times, not at others; in forty-eight hours the growth had disappeared. Paper money at the end of forty-eight hours gave a growth, and continued to do so at times for a month. The number of bacteria found alive on paper was 170,000, on nickel about 40,000, and on copper none. The data thus obtained ought to convince the authorities what a menace soiled bills are to the public health.

Excessive Infant Mortality from Intestinal Diseases.

In Germany it is shown by statistics that intestinal diseases run tuberculosis very close as a cause of infantile mortality. To combat the excessive mortality of young children the Berlin municipal authorities have voted the sum of $2000 for the year 1905-6 to be devoted to the combat of acute intestinal diseases. A new statistical publication of the Imperial Board of Health shows that of late years the number of deaths among young chil-

dren caused by intestinal diseases has risen alarmingly. In 1902, 31,929 children died from intestinal diseases; in 1903 the number rose to 44,377—that is, an increase of 39 per cent. Of these intestinal diseases, diarrhea accompanied by vomiting accounted for 14,403 deaths in 1902, as against 22,026 deaths in 1903—that is, an increase of 52.9 per cent. Again, if the number of deaths among children under one year old be considered, it was 13,282 in 1902, and rose to 20,136 in 1903—an increase of 51.6 per cent. Similar conditions doubtless obtain in many of the large cities of this country, and municipalities would do well to give these diseases more attention than obtains at present.

The Panama Canal Commission.

The report of Dr. C. A. Reed on the sanitary condition of the canal zone, which was published a short time ago in the *Journal of the American Medical Association,* reflected very severely upon the manner in which the sanitary affairs of the isthmus were administered. Since its publication the President called for the resignation of all the members of the Commission, and has appointed an entirely new board. We are sorry to learn that the new board does not contain a medical man, whose services would be of inestimable value in such a climate.

The Low Infantile Mortality in Norway.

A writer in *Janus,* Dr. A. T. Johannsen, claims that the infant mortality in Norway is much lower than in any other country, averaging 95 per mille. The country districts show a lower mortality, 86 per mille, as against 130 per mille in the towns. The mortality in this country is higher among boys than among girls (106 to 89). Beyond the arctic circle the death-rate is the highest among young children, reaching 150 per mille. Johannsen claims that the reason for the low death-rate in Norway is that the summers are cool, and in consequence children are freer from the intestinal disorders that affect those living in warmer climates.

ITEMS AND NOTES.

In India during the week ending March 4 there were 34,000 deaths from bubonic plague.

During the first half of June, 1905, a congress of school hygiene will be held at Paris.

A fatal case of plague was found recently on a steamer arriving at Liverpool from eastern ports.

A new medical building is to be added to the equipment of the Minnesota University at a cost of $100,000.

Dr. William S. Thayer has been elected to the chair of clinical medicine in the Johns Hopkins Medical School.

During the month of March 1054 cases of typhoid fever with 91 deaths were reported to the health authorities in Philadelphia.

Fifty cases of ankylostomiasis were reported in the Arnsberg district of Germany from January 25 to February 15, 1905.

Dr. David L. Edsall has been appointed assistant professor of medicine in the medical department of the University of Pennsylvania.

The seventh annual meeting of the American Proctologic Society was held at Hotel Henry, Pittsburg, Pa., May 5 and 6, 1905.

An international exhibit of hygiene will by request of the Italian general health department be added to the exhibition at Milan in 1906.

A new law forbids the publication in Norwegian newspapers of advertisements to further the sale of any and all foreign patent medicines.

It is said that food laboratories will be established in Boston, New Orleans, and San Francisco similar to the one recently opened in New York City.

The project of uniting all the medical societies of London into a Royal Academy of Medicine, of which each society will form a section, has been revived.

The organizing committee of the French Congress of Medicine has decided to change the date of meeting from October 2, 3, and 4, to September 25, 26, and 27.

Dr. J. B. Kennedy has been elected president of the Detroit Board of Health of Detroit, Mich., to succeed S. T. Douglas. Dr. C. G. Jennings is the new vice-president.

Dr. A. H. Brigg, of Buffalo, has been reappointed grand medical examiner of the A. O. U. W., making the twenty-fifth consecutive term of the physician in this office.

In the State of Ohio there is a law forbidding the issue of marriage licenses to habitual drunkards. A similar measure is to be submitted to the New Jersey State legislature.

The Fothergillian prize of the Medical Society of London for 1905 has been awarded by the council of the society to Sir Frederick Treves in recognition of the value of his work in connection with abdominal surgery.

The Wisconsin State legislature has passed with but one dissenting vote a bill prohibiting the sale or manufacture of cigarette papers. It is not anticipated that the measure will meet with any opposition in the Senate.

The first of the German sanatoriums founded by Prince Hohenlohe in the island of Madeira has lately been opened. It is situated at a height of 300 meters above the sea level, and has accommodation for sixty patients.

Russian officers bribe doctors appointed to examine them after their cure and to report as to their fitness for further services. Lack of enthusiasm for fighting the Japs, states *London Times,* makes them eager if possible to escape service.

The annual bill to abolish coroners has been presented in Albany. Such a bill has come to be an institution in the New York legislature, so many years has it been introduced, and so many times has it "just barely missed" being passed.

M. Roux communicated to the Paris Académie des Sciences at a meeting on February 20 a note from M. Nicolle, director of the Pasteur Institute at Tunis, announcing that he had succeeded in inoculating two monkeys of the Macacus genus with leprosy. Sixty-two days after the inoculation well marked leprous lesions were visible behind the ears.

The third annual conference of State Boards of Health with the Public Health and Marine Hospital Service will be held at Washington, D. C., May 15, 1905. It is proposed that the national control of leprosy and the methods of the transmission of fever shall be discussed at this meeting.

A Tuberculosis Directory is published jointly by the Charity Organization Society and the National Association for the Study and Prevention of Tuberculosis. The names of American institutions, many statistics, and much information for both the poor and the well-to-do, for both physicians and patients, are compressed within 250 pages.

At a meeting of the Northwest Branch of the Chicago Medical Society, recently held, the following resolutions were adopted: (1) That it be the sense of the Northwest Branch of the Chicago Medical Society that contract work is harmful to the best interests of our Society, and should be abolished. (2) That the minimum fee should be as follows: Visits, $1.50; office visits, $1; normal obstetrical case, $15. (3) That this Branch heartily indorses the establishment of a business bureau by the Chicago Medical Society.

The Japanese, says *American Medicine,* are making every effort to prevent the appearance of disease during the coming warm weather. Thousands of soldiers and Chinese are engaged in cleaning Mukden and the vicinity of the battle-fields. The Russians left the city in a very unsanitary condition, and this will result probably in much sickness during the summer unless the sanitary measures of the Japanese are successful. Strict orders have been issued regarding the maintenance of purity of the drinking-water, and other preventive measures will be taken.

In 1861 the total number of medical practitioners in Italy was 18,947, the proportion to population being 8.8 per 10,000. In 1861 the number had fallen to 18,420, a proportion of 6.6 per 10,000 inhabitants. In 1881 it was 18,950, or 6.6 per 10,000. In 1901 it was 22,168, or 6.8 per 10,000. The distribution of practitioners is somewhat unequal, the proportion being higher in the south (7.7 per 10,000) than in the north (6.1 per 10,000). In the province of Undine the proportion is lower than anywhere else in Italy, there being only one practitioner to 2831 inhabitants; in that of Naples it is highest, there being two doctors to 732 inhabitants.

The medical statistics of the French army for the year 1902, lately published, are based, says an exchange, upon an effective of 485,207 men. The total number received in infirmaries and military hospitals gave an average of 594 men per 1000, this large number being slightly less than in the previous year. The figures given refer to France. In Algeria and Tunis the proportion rose to 634 per 1000, but this was notably less than in the previous year. The returns of those received in hospitals and infirmaries are based upon somewhat different conditions, officers being included in one case and not in the other, but the figures are nevertheless sufficiently close to give a good notion of the terrible rate of morbidity. In the case of officers the proportion is very much less. The deaths were 1.24 per 1000 in France and 8.3 in Algeria and Tunis, these figures being much lower than in previous records.

In order to prevent the importation of smallpox into the kingdom of Saxony, says an exchange, the minister of the interior has decreed that all foreign workmen must be vaccinated within seven days after their arrival in Saxony, unless they can show a certificate stating either that they have been successfully vaccinated within the last ten years or have been twice unsuccessfully vaccinated, exception being made of persons who have already had smallpox. Persons are also exempted from vaccination who have performed military service in countries where, like Austria-Hungary and Italy, recruits are vaccinated on entering the army. A certificate is given by the vaccinating physician showing the result of the vaccination. If the operation proves unsuccessful, it is to be repeated after one year in case that on the expiration of such period the workman is still present in the kingdom of Saxony.

We learn from an exchange that hereafter license to practice medicine in North Dakota will be awarded on presentation of a diploma granted by a college giving four courses of lectures of at least eight months each and an examination in prescribed subjects. The board is given power to revoke or refuse a license for dishonorable or immoral conduct, chronic or persistent inebriety or mental aberration, excessive use of narcotics, or for the practice of criminal abortion. In complaints for violating the provisions of this section of the law the accused must be furnished with a copy of the complaint, and be given a hearing before the board in person or by an attorney. The law provides for rec-

procity as follows: The board in its discretion may grant license for the same fee ($20) without examination to applicants examined and licensed by other State examining boards maintaining standards not lower than those provided for by the law.

The report of Surgeon E. S. Bogert, United States navy, has received the indorsement of the surgeon-general of the navy, who agrees with the various suggestions made by the medical officer on duty at the Naval Academy. There is no question that athletic work in the gymnasium and on the field and track should be regulated according to the individual needs of the midshipmen. The plan outlined, and in large part already in practice, will undoubtedly be continued, says the *Army and Navy Register*, although it is doubtful if provision is made for the employment of additional instructors in physical work, such as wrestling and the other forms of activity which are deemed necessary in the development of the young man at the academy. It is not likely either that the department will change its position against the detail of a medical officer as a member of the academic board at Annapolis, which was one of the important recommendations.

In the weekly bulletin of the Chicago Health Department of March 25 the statement is made that "no child dies of diphtheria to whom 3000 units of antitoxin are administered within the first forty-eight hours of the attack—repeated, of course, if necessary." Ten years ago the antitoxin treatment of diphtheria was begun by the department. During the previous ten years ended December 31, 1894, there had been 13,566 deaths from diphtheria and croup reported to the Bureau of Vital Statistics, a yearly average of 1356, and a proportion of 13.53 deaths in every ten thousand of the population. During the ten years ended December 31, 1904, there were only 8129 such deaths reported, a yearly average of 812 and a proportion of less than 5 (4.88 in every ten thousand of the population). These figures show a reduction of 5437 in the actual number of diphtheria and croup deaths since the department began the antitoxin treatment. They show a relative reduction in proportion to increased population of nearly 64 per cent—63.9; which is to say that if the ravages of diphtheria had not been checked by the use of antitoxin during the last decennium there would have been 22,538 deaths from this former scourge of the nursery instead of the 8129 that actually occurred—a probable saving of 14,409 lives.

NEW PUBLICATIONS.

TEXT-BOOK ON INSANITY.

The comprehensive way in which Krafft-Ebing attacks the large subject of psychiatry well exemplifies the very careful work which continental writers have bestowed upon this special field. A discussion of the general idea and nature of mental disease, and of the organ of the psychic functions, is followed by a presentation of certain anatomic, physiologic, and psychologic preliminaries, this leading up to a consideration of the importance of the study of psychiatry and a review of its history. In Book II are considered the general pathology and therapy of insanity, while Book III treats of its special pathology and therapy. Krafft-Ebing has long been known as a hard worker and earnest writer, a master in his chosen field, and this work is regarded as a classic. Dr. Chaddock, the translator, has therefore rendered a valuable service to English readers in giving to them in this posthumous translation the work of this great psychiatrist. His classification has greatly appealed to and has been followed by several of our American alienists, and the physician who would have a standard and comprehensive work upon Psychiatry will do well to find for this volume a place upon his shelves.

A Text-book on Insanity. Based on Clinical Observations. For Practitioners and Students of Medicine. By Dr. R. von Krafft-Ebing, Late Professor of Psychiatry and Nervous Diseases in the University of Vienna. Authorized Translation from the last German Edition, by Chas. Gilbert Chaddock, M.D., Professor of Diseases of the Nervous System in the Marion Sims-Beaumont College of Medicine, Medical Department of St. Louis University, St. Louis, Mo. With an Introduction by Frederick Peterson, M.D., etc. Philadelphia: The F. A. Davis Co., Publishers, 1905.

CHEMICAL AND MICROSCOPICAL DIAGNOSIS.

A notable addition to laboratory manuals is presented in this excellent work. It seems to represent the last word in laboratory technique, and to indicate the proper methods the physician should pursue to obtain an exact diagnosis. It is unnecessary to emphasize the importance of this branch of medicine or to insist upon the necessity of the clinical examination of the blood, the secretions, and excretions in all derangements of the organism. This manual is complete in all respects, amply illustrated, and leaves nothing for the most fastidious to demand.

Chemical and Microscopical Diagnosis. By Francis Carter Wood, M.D., Adjunct Professor of Clinical Pathology, Columbia University. 188 Illustrations. D. Appleton & Co., New York.

HANDBOOK OF NURSING.

This handbook of nursing, published under the direction of the Connecticut Training School for Nurses, is a model example of such manuals. It is simple and concise in form and yet comprises all necessary instruction. A continued popularity may be predicted for this excellent manual.

A Handbook of Nursing. Revised Edition for Hospital and General Use. J. B. Lippincott Company, Philadelphia.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Surgical Shock and Collapse.

T. P. Lockhart (*Lancet,* April 1, 1905) says that surgical shock is a condition produced by exhaustion of the vasomotor centers and the resulting great fall in blood-pressure. Collapse is a similar condition caused by lowering of the blood-pressure from hemorrhage or paralysis of the vasomotor centers. In surgical operations shock most frequently results from operations upon the abdomen, the most important factors in its causation being injury to or exposure of the peritoneum, the length of the operation, injury to organs richly supplied with nerve fibers, as the stomach, uterus, and kidneys, evisceration, and extensive and prolonged manipulations. In operation upon parts other than the abdomen the most important factors in causing shock are injury to large or important nerve trunks or injury to parts richly supplied with nerve endings, the area of the wound, the time of exposure of the tissues, and hemorrhage.

Another important factor in the causation of shock during surgical operations is the anesthetic. Ether and the C. E. mixture are the best anesthetics for cases where there is danger of shock, chloroform, on account of the fall in blood-pressure which follows its administration, being very unsuitable for such cases. The time occupied in performing the operation is always an important factor, more especially in old people and children. The condition of the patient prior to operation is important, especially as regards the condition of his nerve centers. In the treatment of shock stimulants, and especially strychnine, are absolutely contraindicated, as they tend to increase the severity of the condition and to retard recovery. Shock can be produced in an animal by the administration of strychnine alone, and it is as reasonable to treat shock by injections of strychnine as it would be to attempt to cure a dying horse by kicking it. The position with the head down and the foot of the bed raised is of considerable value in the treatment of shock, and should be more extensively used.

Compression of the abdomen either manually in an emergency or by the application of a tight abdominal binder is a most effec-

tual method of treating shock in all cases. The establishment of an artificial peripheral resistance by the application of external pneumatic pressure affords an absolutely certain method of maintaining the blood-pressure, and though not at present a practical method should some day prove of great value. The intravenous infusion of salt solution or physiological serum will raise the blood-pressure in all degrees of shock. As a method of treatment in shock it is disappointing, as its action is fleeting and it cannot be continued indefinitely. In the collapse of severe hemorrhage it is effectual and lasting in its effects. The introduction of saline solution into the abdomen at the end of an abdominal operation is a valuable method of combating shock, and is not contraindicated by the presence of pus in the abdominal cavity.

One of the most effectual methods of treating shock that we possess is by the administration of drugs such as adrenalin and ergot, which raise the blood-pressure by increasing the peripheral resistance independently of the nerve centers. The treatment of shock by the administration of these drugs is as yet in its infancy, and only a small number of cases have so far been treated in this way. The experimental evidence is, however, very complete, and the few clinical cases where these drugs have been used are very encouraging. The use of these drugs instead of the stimulants which are now so popular, but which have been shown to be useless, will probably result in many lives being saved.

The Growth of Cancer.

E. F. Bashford (*Lancet,* April 1, 1905) says that cancer is identical in all vertebrates, and in growing accommodates itself in a striking manner to the time limitations imposed by the compass of life in different animals.

Under favorable experimental conditions the growth of cancer is undefined, of enormous and, so far as we can judge, limitless amount. Artificially propagated cancer displays all the characteristic features of the growth of sporadic tumors. The growth of artificially propagated cancer is due to the continued proliferation of the parenchyma cells. We have confirmed this conclusion originally advanced by Jensen on his own tumor, and on four other different carcinomata. The artificially propagated parenchyma makes the reaction of the host subserve its own needs. Artificially propagated tumors cause no symptoms in the organism to which they have been added. The power of differ-

entiation is definitely in one direction only, even three and a half years after separation from the original host. The number of chromosomes constant for the healthy body tissue is retained, notwithstanding the recurring reduction of this number to the exact half. The balance of evidence is in favor of the growth being interrupted and not uniform and continuous.

From the standpoint of therapeutics the investigations of the Imperial Cancer Research Fund thus far established the early surgical treatment of cancer, and of the conditions suspicious of cancer, upon that experimental and rational basis which has hitherto failed. Artificially propagated tumors produce metastases, as do sporadic tumors. Sufficiently early removal of the local transplanted tumor removes metastasis from the region of possibility, and the immediate practical outcome of the whole investigation is a strong experimental justification of early operation in cancer. We have made many attempts to modify the growth of propagated tumors; they have been, however, purely empirical, and must continue so until the fundamental problem which the writer has outlined has been solved.

The Advantages of Tendon Transplantation.

H. A. Wilson (*American Medicine,* April 8, 1905) says that tendon transplantation alone, or combined with arthrodesis or other bone operations, offers prospects of materially adding to the comfort, convenience, and usefulness of a very large class of patients otherwise more or less dependent upon some form of mechanical apparatus.

The frequently observed improvement in the action of muscles that previous to operation gave evidence of being paralyzed or atrophied from disuse shows the capabilities of restoration when the offending abnormalities have been removed. It is impossible to estimate properly what the future development in a given case will be. The coöperative intelligent care of the patient must be depended upon in securing the best permanent results.

Muscles cannot develop when they are used to excess or are under constant strain. The atrophy from disuse, whether caused by tension or relaxation, often presents all of the appearances of paralysis.

The avoidance of overstrain upon incapable muscles is often demanded, so that the minimum muscle force may accomplish the maximum of action.

The after-treatment is fully as important as the surgical procedure, and must be given prolonged consideration in order to accomplish the best ultimate results.

Arthrodesis alone possesses advantages in cases incapable of benefit from tendon transplantation.

Various forms of osteotomy, osteoclasis, and other bone operations are available for the removal of deformity and for the prevention of undue strain upon the soft parts around a joint.

The author considers it apropos to quote the following from the closing remarks of Dr. Albert Hoffa at the time he read a paper before the American Orthopedic Association: "The results in man have clearly proved that results are to be obtained. . . . The results will depend upon the healthy muscle material available. There must be an overcorrection of the deformity before the operation. . . . Arthrodesis has been satisfactory, but tendon transplantation has given better results."

Enterostomy.

J. W. Long (*American Medicine*, April 8, 1905) says that enterostomy is always a life-saving measure, never an operation of choice. Enterostomy is not indicated when a more ideal surgical procedure is feasible.

In the hands of an experienced, carefully trained abdominal surgeon, capable of dealing with grave emergencies, an enterostomy is rarely resorted to; but the better the surgeon, the more quickly will he adopt any measure that will save his patient.

Every abdominal surgeon, according to the abundance of his material, must find cases in which only an enterostomy can with propriety be done.

When an enterostomy is indicated, to hesitate is to lose your patient; to operate promptly, dexterously, and with celerity means to tide your patient over the imminent peril and spare him for future consideration.

Reduction of Strangulated Hernia.

Fischer (*Therapie der Gegenwart*, No. 3, 1905) finds that by applying an ether spray to strangulated hernia it may be reduced without difficulty or danger. The patient lies on his back with the pelvis raised and knees flexed. The skin surrounding the rupture is smeared with vaselin and covered with cotton. The ether spray is then directed over the rupture and inguinal canal:

the intense cold if continued for one to two minutes condenses the tissues, blood-vessels, and the gas in the distended bowel. Taxis is then made, usually with success; if it fails the operation is repeated in fifteen minutes.

MEDICINE.

Early Infection in Tuberculosis.

A. G. Ellis (*American Medicine,* April 8, 1905) says that much has been written and denied regarding the possibility of tuberculosis that develops in adults being due to infection during childhood. Certain writers insist on the frequency of intra-uterine infection, though in general this is made less prominent than formerly. There appears a growing tendency, however, to attribute considerable significance to the etiologic rôle in pulmonary tuberculosis of primary lymph-node or intestinal infection. This brings up the question of latent infection, especially the extent of its duration and the probability of childhood infection.

A most valuable communication upon this subject is that of Dr. F. Harbitz, who presents the results of extensive personal study and a summary of Scandinavian literature not hitherto widely known. In Leipsig, Harbitz examined the bodies of 30 children dying before the age of fifteen, and found tuberculosis in 9—30 per cent. In Christiania, 275 autopsies revealed tuberculosis in 117, or 42.5 per cent of the subjects. These figures are high, but in the last 142 of the 275 cases the percentage reached 48.6. Of 117 tuberculosis subjects, 72 died of tuberculosis, 21 had latent or obsolete tuberculous lesions, and in 18 latent tubercle bacilli were present. Of these 18, 9 were under one year, 14 under three years. Of the 123 subjects under one year, 25 were tuberculous and 98 non-tuberculous.

From a study of these cases, and also of tuberculosis in adults, Harbitz says the duration of latency in chronic tuberculosis of lymph-nodes may safely be placed at twenty to thirty years, and probably is considerably longer. Hence he maintains that pulmonary tuberculosis in adults may be and often is secondary. "The cause is then to be sought in tuberculous foci in other organs, but mainly in the lymph-nodes, and infection of the lungs occurs most likely by way of the blood (from the thoracic nodes the infection might also easily occur through the lympha-

tics). With my observations in mind (including the latent bacilli in children) I also believe I may maintain that much more stress must be laid upon primary infection through the digestive tract, and not least on infection through the throat, than has been done formerly."

The entire work of Harbitz bespeaks thoroughness, and his deductions are so well supported by facts that his paper must be regarded as one of the most authoritative of recent contributions to this subject.

The Way to Sponge Fever Patients.

The following prize-winning description of how to sponge a patient is quoted from the *Hospital*. When about to commence to sponge a fever patient the exact temperature of the body must first be noted. For tepid sponging the water prepared should be from 80° to 90° F. Remove all personal clothing from the patient and place blankets both under and over him. Place beside the bed all basins, sponges, and towels, or anything that may be required, as under no circumstances should a patient be left during an operation. Commence at the head and sponge downward, exposing only one limb at a time. When the whole body has been sponged the patient should be wrapped in a warm blanket and left undisturbed for an hour or even longer. The temperature may then be taken again to ascertain how much it has been reduced. The same precautions should be used in cold sponging as in tepid. It will, however, be found advisable to sponge each limb over with tepid water before applying the cold, as it will then cause less shock to the patient. It is wise to keep a hot bottle at the patient's feet during sponging, as with the feet warm there is less fear of chill, and in the case of a fever patient there is always more or less danger of collapse. When the temperature has been reduced the body must be gently dried and a flannel nightgown put on. After a cold sponge the temperature may fall from 1 to 6 degrees; the colder the water the sooner the reaction takes place. Ammonia, Cologne water, or vinegar added to the water makes it more cooling by its rapid evaporation. Sponging can also be done by wringing towels out of cold water, dry enough not to drip, and placing them one after another from the neck downward. When the feet are reached, begin again at the head and renew each in succession, continuing as long as necessary.

The Leukopenia of Cachexial Fever.

L. Rodgers (*British Medical Journal,* April 1, 1905) says that a very marked decrease in the leucocytes is always found in uncomplicated cases of cachexial fever, and when they number below 2000 per centimeter this is almost diagnostic of the disease, but may rarely occur in true malarial cachexia.

In cachexial fever the white corpuscles are reduced to a greater degree than the red, so that the ratio falls below 1 to 1000 in all uncomplicated progressive cases. This is rarely so in true malarial cachexia, while a reduction in the ratio to below 1 to 1500 appears to be quite diagnostic of cachexial from other Indian fevers.

The most marked degree of reduction of the leucocytes, and especially of the polynuclears, is of bad prognostic import, and *vice versa.*

Red marrow tablets are of great value in increasing the leucocytes, and this increase may take place during the continuance for months of intermittent fever, and be then followed by cessation of the fever and complete recovery.

High remittent fever is accompanied by progressive deterioration of the blood and general condition, but it may be often to a large extent reduced to the less injurious intermittent form by continued large doses of quinine, combined with red marrow. The best results yet reported have been obtained by those who carry out vigorous quinine treatment.

Inequality of Pupils in Pleurisy with Effusion.

L. Chauffard (*British Medical Journal,* April 1, 1905), referring to observations of Songues on the occurrence of pupilary inequality with and due to tubercle of the apex of the lung, and to the observations of Vincent on unilateral narrowing of the pupil in phlegmonous angina, has investigated the condition of the pupils in seventeen cases of pleurisy with effusion. The pupils in ten of the cases were unaffected, in seven there was inequality. It was observed to be very variable from day to day, going and returning, but always disappearing finally when the absorption of the pleuritic fluid was complete. The degree of the inequality was moderate; it was observable only in a moderate light—for example, that from a window; but if the light to which the eyes were exposed was obtained from an electric lamp or a reflector, the pupils became equal. The same thing occurred on positive

accommodation. There was no recognizable difference in their clinical features between the series of cases without pupil changes and those with them. Paracentesis in three of the positive cases did not affect the pupils. The author ascribes the pupilary change to a dilatation on one side from peripheral causes, and possibly acting in the way of inhibiting the light reflex.

Diagnostic Value of Microscopic Examination of Fasting Stomach Contents.

W. Ackerman and L. M. Gompertz (*Medical Record,* April 8, 1905) call attention to this method of examination in gastric disease, which they consider equal if not superior to chemic analysis of the stomach contents in furnishing diagnostic information. The various structures likely to be encountered in health and disease are enumerated and figured, and the following conclusions are reached: (1) The presence or absence of hydrochloric acid can be determined by a microscopic examination of the fasting stomach contents; (2) the origin of mucus can be determined only by a microscopic examination; (3) by the microscopic examination mild cases of pyloric stenosis can be differentiated from simple gastrosuccorrhea; (4) constant presence of pus, blood, and possibly infusoria in the fasting stomach contents is absolute evidence of extrapyloric carcinoma; (5) benign obstruction can be diagnosed early by the finding of sarcinas, yeast cells in chains, or food remnants; (6) the early diagnosis of malignant obstruction of the pylorus can be made by the finding of the Oppler-Boas bacilli.

Infantile Rectal Gonorrhea.

Fluegel (*Berliner klin. Wochenschrift,* No. 12) finds in 56 cases of gonorrheal vulvovaginitis in infants that 20 per cent were affected with gonorrhea of the rectum. The subjective symptoms in this condition are not marked. The infection usually results from the discharge of gonorrheal pus from the vagina. The treatment consists of suppositories of silver nitrate or ichthyol. The rectal secretion becomes free from gonococci before that of the vagina, as the mucous membrane of the rectum does not afford as favorable a medium for their growth as that of the vagina. In all cases of vulvovaginitis infantum it is advisable to look for a rectal infection.

Action of Alcohol on the Pupilary Reflex.

Vogt (*Berliner klin. Wochenschrift,* No. 12) finds that normal individuals suffering from alcoholic intoxication show no alteration in the pupilary reflex. In those suffering from mental affections 33 per cent show sluggish reflexes after the administration of small doses of alcohol. In chronic alcoholics a tardiness of the reaction also occurs. From the fact that alcohol has this effect in those suffering from cerebral disease the author infers that its continued use will eventually affect the pupilary reflex in the normal individual. This change in the reaction is attributed to an inhibition on the nerve centers by the alcohol.

Suggestive Fever in Phthisis.

Kohler and Behr (*Deutsches Archiv f. Med.,* Bd. 82) found that supposed tuberculin injections in phthisical patients will at times cause a rise of temperature if the tuberculin is replaced by distilled water, or if the needle is only inserted under the skin. This reaction does not occur only in patients hysterically inclined, but in others. It is often followed by subjective symptoms, such as headache, weakness, and depression.

THERAPEUTICS.

The Treatment of Pyelitis.

Howard A. Kelly (*Medical Record,* April 8, 1905) says that it is important to take cognizance of a pyelitis of any grade whatever, as it may at any time become a menace to the functional value of the kidney or even to life itself.

The severer grades of the affection are often the sequelæ of a milder pyelitis of long standing.

The first step in the investigation is to determine the extent of the affection by estimating the amount of pus in the urine and the relative number of organisms.

It is important to determine the cause of the infection, which is often of a mechanical nature and therefore easily relieved.

By removing the cause the disease may either be cured or be so far benefited that a subsequent complete relief by means of local treatments is easily brought about.

The milder forms are best treated by rest, abundant water, and urotropin.

If there is not a speedy improvement the next simplest plan of treatment is the catheterization of the kidney every two to four days for the purpose of evacuation, distention of the pelvis, irrigation, and instillation. Boric acid and nitrate of silver are the best drugs in this connection.

Improvement should be measured by the disappearance of pus from the urine and the diminution of the organism, taking say three platinum loops as the measure in conveying the infected urine to the agar. A patient improved, but not cured (complete absence of bacteria), should be watched in the intervals of treatment, and guarded with especial care in case of any intercurrent disease. Should such a disease supervene urotropin is a good prophylactic. The severe forms of the disease may be treated by irrigation, which often brings great temporary relief. As a rule, however, the kidney must be opened and drained; if it has been extensively diseased, it should be removed.

Chloride of Zinc.

P. Broese (*British Medical Journal*, April 1, 1905) deals with the protection of aseptic wounds against infection with virulent bacteria by the scab produced by cauterizing with chloride of zinc. It has been shown that chloride of zinc has practically no disinfecting action at all. Its cauterizing action is, however, particularly intense, the chief characteristic being its power of penetrating into the deeper layers of tissue. After convincing himself that this want of disinfecting power is true, he inquired into the actual behavior of aseptic wounds which had been treated with the drug and infected. Normal aseptic wounds when infected by various pathogenic bacteria very rapidly absorbed them, as has been shown by numerous experiments. Broese used rabbits, and infected them with bird cholera bacilli and with anthrax. The ear was shaved, a pocket-like wound was made by means of scissors sterilized in the flame, and this pocket was then cauterized with a 50-per-cent solution of chloride of zinc. Into the pocket two or three loopfuls of the culture were placed, and the pocket was then closed completely with collodion. It appears from the experiment that the scab of chloride of zinc is capable of entirely protecting from infection with cholera or anthrax, while the same dose applied in the same way without the cauterization always killed. Further, he found that if the cauterization was carried out within one minute after the infection, the

animal did not become infected. For periods longer than one minute the protection appears to be negative. The scab itself is not a nutrient medium for bacteria, as he could show that on the second or third day, when the collodion was removed, the pocket was found to be sterile. It is strange that a substance which is not a disinfectant should by virtue of its power of combining with albumin be able to protect the organism from infection with virulent bacteria.

The Treatment of Gastric Ulcer.

Francis D. Boyd (*Scottish Medical and Surgical Journal,* March, 1905) says that the circumstances under which as a physician one would advise surgical interference in chronic gastric ulcer are:

1. In chronic gastric ulcer with pyloric stenosis, gastroenterostomy by relieving the pyloric stenosis and resting the ulcer will effect a cure.

2. In chronic gastric ulcer without stenosis, if the ulcer be situated on the pyloric third of the stomach, gastroenterostomy may effect a cure by giving the ulcer rest.

3. It does not tally with present experience that gastroenterostomy will effect the cure of an ulcer situated outside the pyloric third. That the routine performance of gastroenterostomy has been advocated by some surgeons irrespective of the situation of the ulcer is to be deprecated. Such patients improve under the careful dieting and rest of the stomach which is observed after operation, but relapse of the ulcer is to be expected. In such cases, if the surgeon can excise the ulcer, benefit may result; a simple gastroenterostomy will probably only result in disappointment.

Intratracheal Injections.

T. W. Gleitsman (*Medical Record,* April 1, 1905) gives a historic review of the development of this method of medication, which he considers deserves more attention than has been accorded it. Judgment in the selection of cases is necessary, however, and though the method is useful in alleviating the dry cough in the beginning stage of pulmonary tuberculosis, and may at a later stage favorably modify the putrid secretions in this disease, a cure is not to be expected from the procedure *per se.* In bronchiectasis the injections are almost specific, and many but not all cases of asthma can be relieved in this way. Intratracheal injec-

tions are not to be recommended in acute inflammatory conditions, but they are most efficient in chronic tracheitis and bronchitis, while tracheal syphilis has been cured and fetid pulmonary gangrene has been favorably influenced. The vehicle should be a bland purified oil, to which may be added menthol in the proportion of 1 to 15 per cent, guaicol and creosote carbonate from 1 to 2 per cent, etc. The laryngeal mirror is essential to the proper introduction of the cannula, which is preferably made of hard rubber, and is used in connection with the Hartmann ear syringe holding an ounce.

Radiotherapy and Surgery, with a Plea for Preoperative Radiations.

William T. Morton (*Medical Record,* March, 1905) draws the following conclusions:

1. Radiation treatment exerts a retarding effect upon the growth of some cancers.

2. It cures some cases—the ratio to operative measures is not here discussed.

3. Preoperative radiation will increase the ratio of cures by operation.

4. Preoperative radiation transforms some inoperable cases into operable cases.

5. Preoperative radiation is recommended as a precautionary measure, probably quite as important as preoperative antiseptic preparation for surgical operation.

Water-drinking in Typhoid Fever.

E. F. Cushing and T. W. Clarkie (*American Journal of the Medical Sciences,* February, 1905) say that large quantities of water internally, a gallon or more in twenty-four hours, may easily be taken by typhoid fever patients, if administered in small quantities at frequent and definite intervals.

A copious elimination of watery urine at once follows, the degree of polyuria day by day closely corresponding to the quantity of fluid ingested.

Patients are more comfortable by this mode of treatment, and toxic nervous symptoms are lessened.

The mortality as well as the severity of typhoid fever seems to be still further diminished by this method of hydrotherapy employed as an accessory to the cool-bath treatment of the disease.

Local Action of Adrenalin and Spermin on the Circulation.

Baum (*Berliner klin. Wochenschrift,* No. 42) reports from Neisser's clinic at Breslau the results of comparative tests of the active principles of the adrenals and testicles. He states that action of the former is directly contrary to that of the latter. The effect of spermin is to produce a rapid and intense hyperemia, which is of short duration. His experiments emphasize the value of adrenalin in detecting minute fissures in the skin. If the skin is unbroken the local application of this drug has no effect; if, however, there is a solution of continuity a local anemia takes place from absorption. The nearer to normal the structure the more rapidly do the effects of the adrenalin subside. In chronic vascular lesions an intense venous hyperemia follows, which persists for some time.

Adrenalin in Gynecology.

L. Peters (*Medical Review of Reviews,* March 25, 1905) uses a 1:2000 or 1:3000 solution of the drug on an applicator within the uterine cavity to control hemorrhage after curettement, especially in cases in which he proposes to introduce a 30-per-cent formalin solution as a caustic. He has also found it of value in cases of metrorrhagia, especially when combined with solutions of suprarenal capsule. He recommends it also in cases of chronic urethritis, but regards it as especially valuable in vulvitis and pruritus, even when quite acute. He applies solutions of from 1000 to 3000 to the vulva, allowing them to remain in contact with the parts from two to five minutes.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

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Aural Affections in Children.

Herman Jarecky (*Medical News,* March 18, 1905) says that an early recognition of an ear affection may prevent pus formation, which in children proceeds rapidly.

If pus has formed, the attention to it may prevent its toxic absorption.

Early paracentesis may prevent extension from the tympanum to the mastoid cells, brain, internal ear, and sinuses, as well as the partial loss of audition.

Partially deaf children should have the nose and throat examined and pathological conditions removed.

All cases of earaches and discharging ears should be properly attended to.

In all inflammatory diseases children's ears should be repeatedly examined during the course of the disease.

The Purpose of Eyeglasses.

E. M. Alger (*Medical News*, March 25, 1905) says that improvement of sight is only one function of glasses. The relief of eye-strain is fully as important. Eye-strain is often responsible for headache and other reflex nerve phenomena.

One may have perfect vision and still be subject to eye-strain. Small errors of refraction often cause more strain than large ones, since there is a more constant effort to overcome them. Strain can generally be relieved by properly fitted glasses. Glasses which give the best vision may simply increase the strain, and therefore the patient cannot safely select his own glasses; and as he will not buy of an optician glasses which do not improve vision, he very seldom gets the correct glass, and therefore fails of relief.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
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Spinal Analgesia, Especially in Regard to its Employment in Gynecology and Obstetrics.

G. Stolz (*British Gynecological Journal*, November, 1904) traces the development of spinal analgesia from its first suggestion by Corning in 1885 and Bier's practical experiments thirteen years later to the present day. He has himself employed it in 155 gynecological and 25 obstetrical operations, using from 0.04 to 0.08 gramme of tropacocaine dissolved in cerebrospinal fluid obtained by the puncture, as many cubic centimeters of the fluid being used as centigrammes of tropacocaine are to be injected.

The puncture was generally made between the fourth and fifth lumbar vertebræ. The method proved quite successful for plastic operations in the perineum and the rectum, for fistula, and the paravaginal incision. Moreover, vaginal extirpation of cancerous tissues in Schuchardt's way, and abdominal extirpation with exeresis of the pelvic glands and connective tissue, were also undertaken under spinal anesthesia, but in the laparotomies the result was always uncertain, and narcosis by inhalation had to be induced to prolong the analgesia in many cases. The troublesome complications and the sequelæ commonly reported Stolz met with but seldom, and only to a slight degree. In the 25 obstetric operations (forceps, version, manual detachment of the placenta, etc.) the dose injected was 0.05 gramme. In 21 instances the analgesia was complete, and it was always sufficient.

Psychosis in Pregnancy; Induced Abortion.

A. Trent (*British Gynecological Journal,* November, 1904) reports that a quartipara of thirty-one, influenced by reading "Notre Dame de Paris," had from the beginning of her pregnancy the fixed idea that the child would be a monster. She refused food, so as not to feed it, and could not sleep because she could hear it cry "like some one being choked." She attempted suicide by throwing herself under a train. After some days' observation in a hospital the induction of abortion was decided upon. A laminaria tent was introduced, and she immediately appeared to be better, slept pretty well that night, though she dreamed that the monster had cried out because a pin had been stuck in its head. Two days afterward the uterus was emptied under anesthesia. She slept well, took her food, and was soon absolutely normal, and in a fortnight was discharged cured. Alienists do not as a rule expect much benefit from induced abortion in the psychoses of pregnancy.

Lithopedion Forty-one Years in the Abdominal Cavity.

F. N. Haultain (*British Medical Journal,* March 11, 1905) describes a case of lithopedion. The patient had become pregnant at thirty years of age, and went into labor without result at supposed full time—that is, in January, 1868. The abdominal swelling remained, and for some years gradually diminished in size. Menstruation returned a few months after the spurious

labor and continued regular till the age of forty-five. The patient suffered from occasional bouts of inflammatory abdominal symptoms, but was otherwise not affected, and died somewhat suddenly at the age of seventy from cardiac disease. On post-mortem examination a calcified fetus was found behind the uterus densely adherent to the surrounding structures; it retained in a marked degree its normal configuration; the attitude of flexion was undisturbed, the limbs to the finest digits were in absolute preservation, and the nails projected over the finger-tips. The tissues were contracted and calcareous on the limbs, but on the back, scalp, and breech they seemed of normal thickness. The author has found in the literature nine cases described in which a fetus has been retained for as long as forty years. In the majority of cases of advanced ectopic pregnancy decomposition results, with subsequent disintegration and passage of the fetal members through the hollow viscera, and the reasons which in one case tend toward calcification and in the other to disintegration have not been made clear. It is still doubtful whether prolonged retention in a normal uterus with resulting lithopedion ever occurs.

A Case of Smallpox Transmitted Through the Placenta.

A. Ferrari (*Archives of Pediatrics*, March, 1905) reports the following case:

A woman aged twenty was attacked with confluent smallpox of the hemorrhagic type, and had an abortion on the eighth day of the disease. The fetus was six months old and presented a generalized eruption of smallpox of the hemorrhagic type, which tended to become confluent at the umbilicus. After the abortion the mother rapidly grew worse and died. The author concludes that although ordinarily the placenta is a filter which keeps out many infections from the fetus, yet under certain conditions it seems to allow the passage of infection from the mother to the offspring *in utero*.

Postpartum Hemorrhage.

Postpartum hemorrhage, according to H. H. Loveland (*American Medicine*, April 15, 1905), is one of the most serious complications found in obstetric practice. It is not always preventable by careful management of the third stage of labor, as some authors seem to believe. The first step in the treatment of

a rapid and severe case is the insertion of a hand in the uterus, the other meanwhile manipulating the fundus through the abdominal wall.

Of all intra-uterine treatments, except the first mentioned, hot-water douching is the most convenient, the most cleanly, and the most effective.

No obstetrician's outfit is complete without apparatus for the infusion of salt solution and for intra-uterine douching.

The benefit to be gained by packing the uterus with gauze is doubtful; the danger is evident. Later experiences, not only in postpartum hemorrhage but in other conditions in which uterine hemorrhage is feared, as after curetting for abortion, or miscarriage in the early months of pregnancy, have firmly convinced the writer that it is not wise to put anything into the uterus that is not necessary, nor to leave anything there that can be avoided, even though impregnated with antiseptics.

Whence Are the Female Organs Infected by Tubercle?

D. Rosenstein (*British Medical Journal,* Feb. 18, 1905) has closely examined seven cases of genital tuberculosis in women under treatment in a university hospital. He concludes that there is not sufficient evidence of tubercle confined to the ovary in any published case; ovarian tuberculosis seems always associated with similar disease either in the peritoneum or in the Fallopian tubes. As to tubal tuberculosis, the descending form—that is, infection from bowel or other organs above the tubes—is by far the most common variety. Next comes infection through the blood channels. Ascending infection through the vagina and uterus has rarely been authenticated. Tubal tuberculosis appears to be always bilateral and invariably begins on the mucosa. Ovarian and tubal tuberculosis soon undergoes retrogressive change, especially caseation. The adenoid growths sometimes detected in the tubal mucosa in the region of the isthmus are not necessarily associated with tubercle. . The histological appearances of the tube and ovary infected with tubercle are sufficient to show the true nature of the disease without staining tests for the bacillus, which is not always present.

THE MEDICAL AGE

Vol. XXIII. DETROIT, MAY 25, 1905. No. 10.

ORIGINAL CONTRIBUTIONS.

PRELIMINARY REPORT OF A CASE OF LICHEN SCROFULOSORUM.

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Lichen scrofulosorum is an exceedingly rare cutaneous affection, seldom met with in Americans, attacking in preference inhabitants of European countries or recently arrived immigrants. Its etiology and nature are as yet obscure, and the treatment is far from satisfactory. It is the expression of some dyscrasia or state of physical depravement, and is usually found among strumous individuals, predominantly in children of the first hemidecade, although adults are by no means exempt from it. It is an insidious skin disease and presents numerous difficulties for diagnosis. The malady is of much interest on account of its striking clinical features, which closely simulate another disease, equally attacking debilitated and tubercular subjects, namely, lupus. The case under consideration so intimately resembled lupus vulgaris that I was at times inclined to call it so. But after thoroughly studying the case daily in the outdoor clinic, I was convinced that a diagnosis of lupus was not warranted, for reasons to be given in connection with the description of the case.

The literature on this subject is so meager and the cases observed in this country so few, that the dermatologist is prompted to investigate independently, and this the more since the authorities at our disposal do not concur in their views concerning the character and causes of this dermatosis. In my opinion it would seem that this disorder is nothing else but a cutaneous expression of a *tubercular tendency*, not an actual *tubercular state*, and denotes a deranged condition of the bodily forces, an atonic state of the organism at large. It has been

known to follow the exanthemata or acute infectious diseases, and in the present instance an exanthem of some kind is responsible for the eruption. Hereditary influences play a subordinate rôle —in fact there is nothing in the family history of the case under report to indicate the transmission of any particular cachexia. I have only observed this case clinically, and have not had recourse to any pathological examinations of the lesions; I am therefore unable to give their histopathology. The case is under treatment at present for another affection, and the results can only be ascertained after the lapse of some time; hence this report must only be accepted in the sense of a preliminary one.

The present dermatosis is the tuberculo-ulcerative type of lichen scrofulosorum, the rarest of its three varieties, which are termed respectively the *papular, tubercular,* and *ulcerative tubercular.*

Subjointly I append the record of the case as gathered from my case-book:

S. T., aged four, white, female, of American parentage.

Family history: Mother is suffering from repeated attacks of gastralgia. Her grandfather (mother's father) is afflicted with some cardiac trouble following inflammatory rheumatism. Her grandmother (mother's mother) had eczema (at least the mother so denominates it). One of her aunts died of hematemesis superinduced by gastric ulcer. Another aunt has had inflammatory rheumatism complicated by valvular disease. Several other members of the family died from some acute affection, the nature of which is not known to patient's mother. Patient's father died of typhoid fever. His family history could not be ascertained. I was, however, enabled by thoroughly interrogating the mother to exclude the existence of lues on the paternal side.

Past history: The patient has had bronchopneumonia and typhoid fever (?). A year ago she had measles. She has also been subject to recurrent attacks of tonsillitis.

Status presens: In August of 1904 she was attacked by an acute sore throat, which the attending physician pronounced diphtheritic, and for which he immediately administered diphtheritic antitoxin. A week later the present eruption made itself manifest in the form of a papular dermatosis, which eventually transformed itself into the tuberculo-ulcerative type of the disease. The physical condition of the patient is as follows: The child is of average size and weight considering her age. The facies present a characteristic appearance suggestive of pharyngeal adenoids, which were found in profusion invading the vault of the pharynx,

and which were subsequently removed. She has the so-called frog's face, with projecting buccal muscles, everted and prominent lips, protruding eyes, and a pinched aspect of the anterior nares. She is dull and listless, not as playful and adventurous as children of the same age under normal conditions. She is shy, apathetic, and of a shrinking disposition, so that it was at times difficult to examine her properly. There is considerable dyspnea and mouth-breathing, doubtless induced by the morbid state of the naso-pharynx, and the frequency of respiration markedly exaggerated. Oxygenation is imperfect, as the face presents a somewhat sallow color, a shade of lividity. There is also a pronounced degree of anemia. No râles nor any other abnormal sounds are to be discerned on auscultation of the thoracic cavity, nor could there be anything ascertained on percussion. Cardiac action is normal, though at times there seems to be a slight irregularity. The digestive system is intact, and the alvine evacuations are normal. The urinary system is perfect, since repeated urinary examinations revealed nothing abnormal. In spite of the suffering of the patient she does not seem to appear as if she were underfed, although this may be only apparent, as we are apt to meet with children who look plump and yet do not possess the normal quantity and quality of blood. The most striking feature of the case is the cutaneous lesions. They cover the anterior and posterior aspects of both the upper and lower extremities; some of them are also situated on the trunk, face, and head. Those on the head are secondary lesions, depressed scars alone being visible in different situations on the scalp; the growth of hair, however, is unaffected. The scars are pigmented, some superficially, others deeply, and are of the size of a split pea to that of a small bean. The face also exhibits pigmented superficial scars, somewhat larger than the preceding ones, surrounded by an area of irregular discoloration. The latter is seen to embrace nearly every individual lesion in various configurations—ovoid, oblong, serpentine, circinate, etc. Besides these cicatricial-pigmented plaques, there may be also detected ulcerative and tubercular lesions, invading the angle of the lips. The latter have deep fissures running parallel with the labial canthi. There is a flat ulceration of the size of a small lentil on the anterior lateral portion of the tongue. On the right shoulder is a scar fully the size of a hen's egg, pigmented, circinate, and considerably depressed, surrounded by a halo of pigment of a zigzag shape. The upper extremities are studded with tubercles of various size and shape, one, the largest of them, involving the epitrochleum. The base underneath it is

pinkish, devoid of secretion, and somewhat depressed or "punched out." Several papules are found scattered here and there, having an angular form, and tend to group in L- or V-shaped figures; especially is this marked around the elbows. The back is the seat of a few disseminated tuberculo-papular lesions, variously shaped and sized. The lower extremities, however, afford the most conspicuous locality for the eruption. They present the same tendency toward circular grouping as on the elbows, although a little more pronounced in the last mentioned place; they encircle the knees in a semicircular manner. The lesions there are of the acuminated papular variety, with slight depressions or umbilications in the center. Scattered among these various lesions we find crusts or transition products between ulcerations and tubercles. The crusts are yellowish-brown or dirty-gray in color. On the extremities purely pigmented patches may be noted, without any concomitant cicatrices, tubercles, and papules. With the first appearance of the dermatosis there was marked itching present, which is not so pronounced now, or only occurs at certain periods. The lymphatic nodes in the cervical and inguinal regions are much enlarged, particularly so in the latter situation. At all times there was slight fever present, the thermometer registering 99.5° to 100° F.

The patient has been under treatment for about three weeks, but so far there is very little progress to be recorded, the lesions remaining stationary and persistent; some of the smaller papules and tubercles are beginning to undergo involution, but this takes place with such a slow pace that no apparent retrogression is visible. The child is under constant observation, coming to the clinic almost daily, so that I am fortunately in a position to study the dermatosis closely. The treatment consists in the internal exhibition of cod-liver oil, in conjunction with iron iodide and the hypophosphites. Externally an unguent composed of ichthyol, salicylic acid, adrenalin, and zinc oxide ointment as a base is employed. It was thought that the removal of the adenoids which were found quite exuberant in the pharyngeal vault would ameliorate the cutaneous affection, and they were accordingly removed. I am much indebted to Professor Hackett, chief of the dermatological clinic, and Dr. Baruch, assistant in dermatology, for their kind assistance and valuable suggestions in the management and the diagnosis of the case under consideration.

The above is, as I have remarked elsewhere, an incomplete report as far as the subsequent and final results are concerned, and should therefore be regarded as a mere preliminary one. I shall attempt to supplement, if possible, this report at a later date.

ABDOMINAL DIAGNOSIS.*

BY H. E. RANDALL, LAPEER, MICH.

Abdominal diagnosis is, I think, one of the most difficult branches of medicine. The multiplicity of diseases to which the abdominal organs are subject has no parallel except in systemic diseases. The value of the history of a patient is appreciated when for any reason we are unable to communicate with him. To be of use the history must be complete, and must include the history of the present sickness, and every incident of the patient's life or in the life of his parents or grandparents that has a direct bearing on the diagnosis. The fact of an attack of inflammatory disease of the uterine organs or appendages, of the appendix, or of the gall-bladder, may in cases of intestinal obstruction enable us to say that the obstruction is due to a band and to judge of its location. In obstruction of the bowels in children the age would point to intussusception; we would expect volvulus to be the cause in a patient over forty-five. Gall-stones and cancers are diseases of middle life and after; appendicitis is a disease of youth and young manhood. Tuberculosis is a disease of youth, while calculi of the kidney and bladder are expected in middle life. There are exceptions, of course, and other conditions will occur to us.

After obtaining the history we should have a plan of systematic examination, or many things may remain unobserved. Abdominal diagnosis is based on the history and the abnormal conditions found by physical examination, or by diseased secretions found by means of laboratory examinations. Anatomy forms the groundwork of right diagnosis. The general topography and the anatomical points are foundations of correct diagnosis. To remember the anatomy helps us to make a diagnosis where otherwise it would be impossible. To illustrate: In a tumor on the left upper abdomen the tympany or absence of it serves to distinguish between tumors of the spleen or kidney. The splenic tumor is in front of the colon, so there is no tympany of the colon, while in tumor of the kidney there would be. However, on the right side of the abdomen the colon does not invariably pass in front of the right kidney, although this was formerly taught as being so. In a majority of cases it lies over only the lower pole of the right kidney, and may lie below the kidney; so

*Read before the Lapeer County Medical Society, April 12, 1897.

on the right side this sign cannot be depended on to diagnose between a tumor of the right kidney and one of the right lobe of the liver.

Under the head of present sickness there are general conditions that should be borne in mind. Hysteria is as protean in its forms as syphilis. We should remember that a hysterical patient is not necessarily immune to acute inflammatory conditions. The type of fever patient has will sometimes direct inquiry in the right direction: there is the irregular fever of tuberculosis; Wunderlich's staircase fever of typhoid; the angle or steeple class fever of gall-bladder infections, and also of suppurative conditions; the regular chills and fever of malaria. The premonitory symptoms sometimes throw light, as the backache, anorexia, headache, and general weakness of typhoid, or in a double infection of malaria and typhoid with the malaria symptoms prominent at the beginning and at the close of the typhoid. A sudden fall of temperature may mean a hemorrhage or a perforation of bowel. The laboratory aids us in doubtful cases with the Widal test; the microscope lends us aid in paratyphoid where we have enlargement of the spleen and no Widal reaction, and in malaria it detects the plasmodium of Laveran. The number of leucocytes in the blood helps us to interpret the disease and its progress. In returned soldiers from tropical climates we are on the watch for amebic abscess of the liver and the other animal parasitic infections.

In the history of the present illness the mode of onset of the disease is especially important in abdominal disease. Typhoid has its peculiarity of invasion; the onset of gall-stones has its previous history of dyspepsia; the onset of appendicitis has its epigastric pain, shifting finally to McBurney's point. Many abdominal diseases have a common history. In ulceration of stomach, gall-stones, and appendicitis, subjectively the symptoms may be much alike. Intestinal obstruction commonly has pain about the navel. The pain comes on suddenly in gall-stone colic, usually with a history of stomach trouble. We ought in a majority of cases to be able to make a diagnosis before they reach a serious stage. However, some cases will show no symptoms indicating the seriousness of the trouble.

Finally, we must be watching for certain diseases which are not primarily of the abdomen. An irregular fever with muscular pains and a great deal of abdominal discomfort may occur in trichinosis. Many infectious diseases are ushered in with abdominal pain, such for instance as pneumonia. We should not forget there is such a thing as the crisis of locomotor ataxia.

The first pain is not always at the seat of trouble, but in a few hours when local peritonitis starts the pain becomes localized, and usually accords with the point of tenderness. When local pain and local tenderness exist at the same point, we have an important indication in the diagnosis of acute and dangerous diseases of the abdomen. The tenderness with pain over the Mayo Robson point justifies a diagnosis of gall-bladder disease. Pain and tenderness over McBurney's point mean appendicitis. In many acute abdominal troubles ordinary physical examination will often reveal but little, and we must more diligently study the clinical history.

After getting a good history we are ready for objective signs, and we first use our eyes. Standing back from the patient we observe asymmetry or a general enlargement or bilateral swelling where it is not natural. In bilateral cystic diseases of the kidneys we find both loins bulging instead of a notch or sweep from hip to ribs. It may be an enlargement due to a tumor in some region of the abdomen. It is safe to say that a bulging or swelling that may be seen has usually been discovered by the patient. If it be a cyst, it has a rounded appearance. The fluid does not seek the flanks as free fluid will. Get closer to the patient and we notice the condition of the superficial veins. We watch the respiration to see if it is restricted. In inflammatory conditions of the appendix the breathing does not go down as far on one side as the other. In gall-bladder or hepatic diseases the right side is held quiet as it would be in pleurisy. Pot-belly is seen in scrofulous children, tympanites and retracted abdomen in wasting diseases. In intestinal obstruction we notice the violent peristalsis, depending on the location of obstruction. The color of the skin shows the pigmentation of Addison's disease, the jaundice of hepatic disease, dilated stomach, enteroptosis, hernia. The position the patient assumes may be of service in forming an opinion. In inflammatory conditions the limbs are flexed and drawn up. A position sometimes assumed in appendicitis is that of the patient lying on his right side curled up like a fetus. Notice if the patient resists pressure on the tender spots. In intestinal colic pressure gives some relief, while in inflammatory conditions it is otherwise. In inflammation the patient points out the spot of pain and the direction in which the pain may radiate. In stone of the kidney the pain usually radiates to the groin or testicle. In ovarian disease the pain is lumbar. In gall-bladder affections it is commonly at the back of the chest toward the right shoulder. Many stomach pains seem to run through to the back. The pain of obstruction is

colicky and intermittent. These little points are frequently of much service in arriving at a conclusion.

As to palpation, let me say I have scant regard for the man who claims that his sense of touch is so acute that he can feel the appendix and many things ordinary individuals cannot. The only time you can feel an appendix is when it is of no earthly use to you. When it has no adhesions, by starting to palpate at the iliac vessels, and sliding the fingers along, the worm-like body slips underneath. I have seen men with a sense of touch so acute that in palpating a gall-bladder they could feel the gall-stones, and on subsequent operation find a suppurative appendicitis. Bobb, of Indianapolis, did the first gall-bladder operation in the belief that he was operating on an ovarian cyst. And the one who claims that he has made no mistakes is certainly streaking the lintels or has had a very limited experience. Palpation is said to be the most important method of examination, and the more acute the touch the more can be made out by it. Isreal, who examines the kidney in a position midway between lateral and dorsal decubitus, has been able to find a tumor no larger than half a cherry; but had it occurred at the upper part of the kidney it might have attained an enormous size before even an Isreal could detect it, even with the accompanying symptoms pointing to it, such as hematuria or colic.

It is of the greatest importance when a tumor is felt to know from what organ it has its origin. If a tumor has the form of a kidney it is probably of renal origin. If it has a sharp lower border it is probably of hepatic origin. If a tumor has two or three notches it may be the spleen. A new growth of the abdomen may give rise to fever even before infection or ulceration takes place. A tumor may be nodular, but owing to a thick abdominal wall it may feel smooth. Tumors of the gall-bladder are pear-shaped. Tumors of the pylorus and of the intestines are cylindrical. If a tumor be indented it is probably made up of feces and arises from the large intestine. If a tumor be of the abdominal wall above the transversalis fascia it becomes more prominent when muscles are contracted. If below the transversalis it becomes less prominent.

In some cases a tumor may be distinctly felt, but an absolute diagnosis cannot be made. A sarcoma of the retroperitoneal glands and a cyst of the pancreas are examples. Retroperitoneal glands and tumors of the pancreas do not move with respiration.

Tuberculosis of the ileocolic region and cancer of that region sometimes cannot be distinguished even when the abdomen is

open. The rarely occurring retroperitoneal lipoma may fluctuate and thus deceive one.

A distention of a particular coil of intestine should cause you to suspect stenosis from some cause beneath it. The effect of respiration on tumors depends on their distance from the diaphragm. Those of the liver are most affected by respiration, less so those of the spleen, and still less those of the stomach. In tumors of the stomach, when on the anterior wall, if the stomach be dilated with gas the tumor becomes more prominent. If on the posterior wall it disappears. Distention of stomach by gas may serve to distinguish a dulness due to the liver and the spleen by separating the dulness, the stomach lying between them.

In tumors of the uterus, if not attached by too long a pedicle, when pulled upon or moved by the finger upon the cervix a distinct pull will be felt.

Tumors of the intestines, myoma, lipoma, cysts, or carcinoma, or sarcoma, have a course that may be general to them all. Attention is usually directed to them by symptoms of acute or chronic obstruction of the bowels, or by bloody stools, or by symptoms of gastric and intestinal dyspepsia. We need some sign by which these conditions may be diagnosed at an early stage, and in sarcoma and cancer before a cachexia has developed. Dyspeptic symptoms with colicky pains with abdominal distention should be looked upon as suspicious signs.

Blood in the stool is more fresh the nearer the hemorrhage is to the rectum, and one should look for ulcerative growth, cancer, etc.

Vomiting may be the only symptom in a case of beginning cancer of the bowels. Vomiting of blood indicates injury to the blood-vessels, usually ulceration.

If a tumor be present palpation shows its size, shape, and possible change in shape, relation to surrounding parts, consistence, creaking (echinococcus), pulsation, connection to organ of origin. It may show the points of tenderness, the rigidity of muscles, and the condition of the opening at the usual sites of hernia. Percussion determines dulness or tympanites or a change of dulness and tympanites due to change of position.

Bodies of a metallic nature are easily detected by the *x*-ray. The *x*-ray may be of some service in tumor, but its greatest service is in detecting stones in the urinary tract. Gall-stones are not shown by *x*-ray examination.

In conclusion allow me to quote from Edgar Allan Poe, who has written the best detective stories. The physician is a detective

in the highest sense of the word. By following a single clue he unravels the whole knot of the tangled skein. It requires the same kind of instinct that makes a Dupin or a Sherlock Holmes.

In the Purloined Letter, Edgar Allan Poe, speaking through Dupin, said: "There is a game of puzzles which is played upon a map. One party playing requires another to find a given word—the name of a town, river, state, or empire—any word, in short, upon the motley and perplexed surface of the chart. A novice in the game generally seeks to embarrass his opponents by giving them the most minutely lettered names; but the adept selects such words as stretch in large characters from one end of the chart to the other. These, like the other largely lettered signs and placards of the street, escape observation by dint of being excessively obvious, and here the physical oversight is precisely analogous with the moral in apprehension by which the intellect suffers to pass unnoticed those considerations which are too obtrusively and palpably self-evident." And in the Murders of the Rue Morgue, Dupin again said that "Vidocq, for example, was a good guesser and a persevering man. But without educated thought he erred continually by the very intensity of his investigations. He impaired his vision by holding the object too close. He might see perhaps one or two points with unusual clearness, but in so doing he necessarily lost sight of the matter as a whole." Thus there is such a thing as being too profound.

EARLY DIAGNOSIS AND EARLY TREATMENT OF OTITIS MEDIA.*

BY N. C. STEELE, M.D., CHATTANOOGA, TENNESSEE.

1. Careful observers know there is a large number of adults who are permanently deaf in one or both ears.

2. Of every 1000 seriously deaf ears, perhaps in 999 the disease is otitis media—inflammation of the drum cavity.

3. Every aurist knows that chronic otitis media is generally incurable.

These three propositions are sufficient to justify this paper on "Early Diagnosis and Early Treatment of Otitis Media."

I shall not write at length of the etiology and pathology of otitis media, nor of all of the many related points of interest. I ask you to note the limitations of my subject, although I myself

*Read before the Tennessee State Medical Society, April, 1905.

may not be able to confine my remarks rigidly within these limitations.

Otitis media is nearly always secondary to disease in the nose or throat, and very naturally so. The ear drums are lined with mucous membrane that is continuous with the mucous membrane of the Eustachian tubes. Each of these tubes opens by its expanded mouth directly into the rhinopharyngeal cavity. This cavity is bounded by the soft palate below, the posterior end of the septum narium in front, and by the vault and posterior wall of the pharynx above and behind. The Eustachian tube is the great highway along which disease travels from the rhinopharynx to drum cavity.

A few cases of otitis media are probably caused by direct impact of cold air or water through the external auditory canal against the external drumhead, or by fluids being forced through a Eustachian tube into the drum cavity. A few others may be caused by pathogenic germs that find their way to those cavities by way of healthy noses or throats and Eustachian tubes, but the great majority of cases result from congestion and inflammation extending from the rhinopharyngeal region and Eustachian tubes.

Mucous membrane is prone to congestion and inflammation. A famous physician on retiring from practice emphasized this by saying: "I have treated my last mucous membrane." Of all mucous membranes, that which lines the nose and throat, and especially that which lines the posterior naris and the upper pharynx, seems peculiarly liable to disease, possibly because it is so richly endowed with lymphoid tissue.

The Eustachian tubes open directly into the rhinopharyngeal cavity, and therefore are easily involved in any morbid process there present, and along the mucous membrane of these tubes the disease travels by continuity or otherwise to the drum cavities. Just how this is accomplished is not so clear as is the fact that it occurs. The intricate questions of this pathology I am not expected to discuss here.

As acute otitis media is of all possible degrees of acuity and activity, the symptoms are of all degrees of intensity.

The pathological conditions and objective and subjective symptoms are the same in persons of different ages, but the *manifestation* of the subjective symptoms in children is often not the same as in adults. The chief subjective symptoms are a stuffy feeling, pain, deafness, and noises in the ear.

Earache nearly always means congestion in the drum cavity—

the beginning of otitis media—and in children earache is the most common and pronounced subjective symptom of this disease. It may be simply congestion or the mildest form of subacute inflammation, which subsides of itself or under the simplest treatment; or it may be the beginning of a more intense inflammation. In very young children it is often difficult or impossible to make an early diagnosis of acute otitis media, as they are not able to tell us their symptoms. A child that cries as if in pain and repeatedly puts its hand to the same side of its head very probably has earache, the beginning of otitis media, especially if it has fever, and more especially is this true if the child has a "cold;" for the most common cause of otitis media (which, of course, is the cause of the earache) is what is rather vaguely known as a "cold in the head"—that is, rhinitis or rhinopharyngitis.

Many children are victims of frequently recurring earache. They have it after getting wet, or hot, or cold, or sitting in the wind, or when they take cold, and such children take cold easily. They have sore throat now and then, and often have a "cold in the head." All such children have chronic rhinopharyngitis with secondary involvement of the Eustachian tubes and drum cavities; and this last condition is, of course, otitis media. Examine the drumheads of such ears, and you will find them more or less lusterless and congested, and there will be undue enlargement of the lymphoid tissue in the rhinopharynx—the tissue that is known as adenoid tissue, and also as the third, or pharyngeal, tonsil. This lymphoid or adenoid tissue in the upper pharynx often encroaches on the Eustachian tubes, and when hypertrophied it mechanically interferes with the drainage and ventilation functions of those tubes, as well as imparts to them the inflammatory process either directly or reflexly through vasomotor disturbances.

Treatment.—For the relief of earache caused by the congestion or inflammation in the drum cavity many simple things can be done. A hot mustard foot-bath; a hot iron or brick or bottle of water to the feet while patient is warmly covered in bed; hot water *in* the ear from a dropper, spoon, or syringe, or *to* the ear in bag or bottle, or hot meal or salt in a cloth sack to the ear—these are all excellent expedients. A mixture of laudanum and oil, half and half, especially when warm, has done good service. A better mixture to be put into the ear is the following: Cocaine mur., gr. x; sol. adrenalin chloride, ʒj. Mix and put 5 to 10 drops, warm, into the ear as needed. This is *not to be used* if

there is a perforation of the drumhead. A still better mixture is: Gum camphor, ℥j; menthol crystals, gr. xxx; chloroform, ℥j; liquid albolene, to make ℥j. Mix and put 5 to 20 drops in ear as often as needed to subdue the ache. This can be used for any kind of pain in the ear of any person, and at any stage of the disease. Early and free purgation is important.

If the earache is severe and persistent, a natural or artificial leech may be used in front of the tragus, and a general anodyne should be given; and there is no better anodyne than some form of opium, Dover's powder or paregoric being the best form. Opium helps to reduce the congestion by stimulating vasomotor action—vasomotor paresis being the chief pathological condition in the early or congestive stages of acute otitis media. Serious involvement of the mastoid cells, while not common, is liable to occur in any case, and the physician should always keep this in mind.

If the otitis media is the result of measles, scarlatina, or diphtheria, and the pain is severe and persistent, and especially if the external drumhead is bulging outwardly, a free incision should be made through the posteroinferior portion of that membrane to allow escape of the pent-up fluid, which in such cases is almost certainly pus. This incising the drumhead is more easily advised than done, however.

If the patient is old enough, I like to cleanse thoroughly the rhinopharyngeal cavity with a postnasal syringe, and then gently inflate the drum cavity through the Eustachian tube with the vapor of a mixture of gum camphor, ℥j; menthol, ℥j; to chloroform, ℥j. During these inflations of the ear the head should be held forward and turned toward the opposite side, so as to favor drainage of the drum cavity, should there be fluid in it.

But in spite of all that can be done the morbid process often persists and increases until the accumulating serum, mucus, or muco-pus in the drum cavity ruptures the external drumhead, or we feel compelled to incise it, and the fluid is discharged through the external auditory canal.

If this discharged fluid is serum or sero-mucus, all that is necessary to be done is to gently wipe out the ear carefully several times daily with clean, warm, carbolized water, 1 to 30, and keep absorbent cotton in the ear. The rupture or incision will probably close in two or three days. These are the so-called simple catarrhal cases.

If the discharged fluid is muco-pus or pus, more thorough treatment should be given, and a longer time will be required to

stop the discharge and thus give nature a chance to close the perforation. I offer the following suggestions as to treatment:

Carefully and gently syringe out the ear with warm carbolized or boric acid water and wipe with absorbent cotton on a small toothpick until the ear is perfectly clean. To make sure of this I often wash out the rhinopharynx with the postnasal syringe, and blow air through nose, Eustachian tube, and drum cavity, thus forcing all mucus and pus out of the drum cavity into the external auditory canal, from which it should be thoroughly removed by wiping. Then fill the upturned canal twice daily with zinc sulphate, grs. ij to x; carbolic acid, drops xv; to water, ℥j. The thoroughness with which this is done is of great importance. Dioxogen or peroxide of hydrogen will sometimes be found helpful in cleansing a suppurating ear. Many other medicines have been used in these cases, such as silver nitrate, argyrol, picratol, hydrastis, in solutions of various strengths, but I have not found them necessary. I find the dry treatment, either alone or immediately following the foregoing treatment, most excellent in these cases.

Drugs that will yield good results when used in the powdered form are boric acid in full strength, and alum, zinc oxide, aristol, hydrastis canadensis, and campho-phenique. The last five should be diluted with some neutral powder. To prevent caking in the ear I use as a diluting powder boric acid, talcum powder, zinc stearate, or dolomol powder. The regular dolomol-alum, dolomol-zinc oxide, dolomol-acid carbolic, and dolomol-aristol act excellently.

But, after all, thorough and gentle cleansing of the external canal and drum cavity is the measure of chief importance.

Further Treatment Important.—After the earache ceases and other acute symptoms subside in either a non-discharging or a discharging ear, do not consider the matter ended. Explain to patient or parents the great importance of having the nose and throat thoroughly examined and properly treated. Especially is this important in persons who have had repeated attacks of earache, which means middle-ear congestion or inflammation.

Often subacute or acute otitis media in child or adult is only an exacerbation of a chronic condition, and the key to the successful treatment of such cases is the proper management of the nose and throat.

If the faucial tonsils are much enlarged or their follicles seriously diseased, they should be removed by excision, and the

sooner the better. On this point there should be no equivocation or hesitation. If the turbinal bodies are permanently enlarged they should receive proper treatment, but in children they will rarely need removal or cauterization. Any existing polypus should be removed. The region that should receive the most thorough investigation and careful treatment is the rhinopharynx. Into this cavity open the posterior naris, the pharynx, and the Eustachian tubes. It is richly endowed with blood-vessels and with serous and mucous glands and lymphoid glandular tissue. Sometimes the chief mass of this lymphoid tissue is high up in the vault of the pharynx, and at other times it is lower down, on the posterior pharyngeal wall.

In many children, because of some unknown inherited constitutional condition, this lymphoid tissue in the rhinopharynx, as well as that composing the faucial tonsils, is peculiarly prone to acute congestion and inflammation, which easily becomes chronic, and this chronically inflamed and thickened tissue lies near, and often partially around, the mouths of the Eustachian tubes, and easily affects by continuity or vasomotor reflexes, or otherwise, the mucous membrane lining these tubes and near-by drum cavities. Hence the very great importance of early examining and treating the rhinopharyngeal region in children who have otitis media of any degree, as shown by earache or increasing deafness.

If a child has recurring earache, or increasing deafness, you should suspect an abnormal condition in the rhinopharyngeal cavity. If he has in addition a nasal twang in speech, and does not breathe freely through his nose, you may be more confident that your suspicion is correct. And if, in addition, he has sufficiently open anterior nasal cavities, your diagnosis is made certain. In such a case it is almost useless to treat nose, throat, or ears with medicines only. The diseased and enlarged lymphoid tissue in the rhinopharyngeal region must be removed by surgical means. In all the domain of surgery there are not many procedures more clearly indicated than this one.

Removing Lymphoid Tissue.—In those cases where the lymphoid tissue is soft and not much enlarged, it is sufficient to crush it thoroughly with the nail of the forefinger introduced behind the palate. The finger should be pushed up until the posterior end of the septum is felt, and then forced backward and downward with firmness against and over the surface of the vault and posterior wall of the upper pharynx. This movement

should be made rapidly and repeated several times, each time in a slightly different direction, so as to reach and thoroughly crush all the diseased tissue.

If this lymphoid tissue, or adenoid tissue, or third tonsil, or pharyngeal tonsil, whichever you choose to call it, is much enlarged, and especially if firm, thus showing genuine interstitial hypertrophy, it should be removed by the postnasal curette, pharyngeal tonsillotome, or the cutting forceps, as the operator may elect. I usually prefer the curette. The details of this instrumental operation are not within the scope of this paper; they can be found in any good work on the ear or nose.

In the cases of rhinopharyngitis not requiring any operation, as well as those requiring either of the operations here mentioned, proper local medical treatment should be given until all symptoms of ear trouble and oversecretion of mucus in the rhinopharyngeal region have ceased.

In adults, turbinal hypertrophies, septal spurs and deflections, and polypi, as well as involvement of accessory sinuses, should be properly dealt with.

Applying Medical Treatment.—In young children syringes and atomizers are of but little value. The simplest and most effective method of applying a liquid medicine in children is to inject it into the nose and let it sweep over the surfaces of the nostrils and rhinopharynx, including the Eustachian tubes. Place the child on his back with his head hanging far over backward. The instrument to be used is a simple medicine dropper, and from five to ten drops of the fluid, according to age of patient, is to be injected into each nostril, and the patient should remain in this position until the medicine has had time to reach the throat. Seiler's solution, or borax, five grains, or boric acid eight grains, to the ounce of water, are good applications. The following mixture I have found most excellent: Gum camphor, 1 grain; oil eucalyptus, 5 drops; oil sassafras, 5 drops; to liquid albolene, 1 ounce. Five to ten drops put into each nostril, as above indicated, three times daily.

The foregoing method is an excellent one for an adult to adopt in using on himself medicines intended for the rhinopharyngeal region, especially when the Eustachian tubes and tympanic cavities are diseased. But the most efficient method for the *physician* to apply fluids to the surfaces of the rhinopharyngeal region in adults is by the use of the ordinary postnasal syringe. It is the only instrument with which he can thoroughly

cleanse these surfaces, and he can with it apply any liquid in almost any quantity, but only a small quantity should be thrown up each time for fear of forcing it into the Eustachian tubes. This point is especially important if the nasal passages are not of normal caliber. In my estimation no other instrument is nearly so effective as the postnasal syringe. The distal end of the pipe should have the proper curve, the point be smooth, and have twice as many holes in it as those usually found on sale. In a few patients the De Vilbiss atomizer, the best of all atomizers, does well, but the postnasal syringe can be used in all patients except babies. Care and judgment should be exercised in using the postnasal syringe.

The medicines last mentioned, but in greater strength, are suitable for using in adults with the atomizer and postnasal syringe. Also argyrol 30 to 60 grains, or picratol 5 to 10 grains, or aqueous fluid hydrastis 1 drachm, to water 1 ounce, are excellent remedies, and may also be applied with the curved cotton carrier, and the best cotton carrier is a lady's large wire hairpin, properly curved. Dr. Buck, of New York, is partial to the use of silver nitrate, 15 grains, to water 1 ounce, applied with a curved cotton carrier to the rhinopharynx. He insists that it acts beneficially both *directly* on the mucous membrane of the rhinopharynx, and *reflexly* on that of the Eustachian tubes and tympanic cavities.

In the above I have given only a brief summary of treatment.

General Management and Treatment.—All persons who are prone to these vascular disturbances in the rhinopharynx, Eustachian tubes, and drum cavities, which result in hypertrophy and sclerosis and consequent deafness, should have their general health improved as much as possible. Proper exercise, outdoor life, correct eating, drinking, and breathing will do much in most cases to lessen the tendency to congestion of the mucous membranes of the throat, nose, and ears. Anemia, struma, and other pathological systemic conditions must be met by appropriate therapeutic remedies.

The physician who looks carefully and intelligently after his patient's general health, as well as the local treatment, will have the greatest success in otitis media, just as he will in other local diseases.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE REMEDIES OF OTHER DAYS.

A French writer, M. Cabanés, has recently been writing some diverting articles on the remedies of other days, and his work, besides possessing unusual anecdotal attractions, is full of a mild philosophy which teaches us we should not condemn *a priori* the methods of our ancestors. The germ of much that constitutes modern medicine is certainly to be found with them. Empiricism has given us the best of our medicaments, as, for instance, quinine, and it is to the middle ages that we must look for the origin of the opotherapy and serotherapy that constitute the large part of modern therapeutics. As Professor Landouzy has recently demonstrated, the first example of practical immunization was furnished by the snake charmers. Nearly every animal has furnished something to the pharmacopœia. The dog, ever the chief friend of man, has given the most. Ambrose Paré used to employ very extensively the oil of puppy dogs. The fat of dogs healed all ills. Dog's brain was given in delirium and mania. Dog's eye was given in ophthalmia. The teeth, calcined, were the best remedy for toothache. Ambrose Paré practiced opotherapy without perhaps knowing it.

The oldest and best example of opotherapy is furnished by what may be called placentophagia. Women desirous of promoting conception were, in accordance with Hippocratic medicine, urged to place in the vagina a mixture of various things, of which after-birth formed the main ingredient. The ingestion of placental tissue still prevails in America, Africa, and Asia, especially for the purpose of increasing lactation.

The viper has long enjoyed a prominent place in therapeutics. The extinction of the snake in many European countries has been largely promoted by its being sought for as a remedial agent. It

was not until 1884 that the viper really lost the last glories of its great renown, for it was not until then that it was finally expunged from the French Pharmacopœia.

The vagaries to which therapeutic practice is subject are illustrated in the case of coffee. It is said that a keeper of camels once endeavored to find out why his animals kept awake and were able to work all night contrary to their usual custom. He found that when this occurred they had pastured in lands where the coffee tree abounded. The camel-driver boiled some of the coffee beans, and drinking the infusion found he could keep awake all night. The effect was the same in his companions—those who drank it never slept during their watches. When coffee came to Europe it was at first generally condemned by physicians, but popular opinion veered in favor of it. It was accused of causing impotence in men and sterility in women. The Princess Palatine for this reason urged it should not be used by the Protestant clergy, though it might be by Catholic priests. It was long considered an anaphrodisiac, but also a good remedy for melancholy. A certain great lady, hearing her husband was killed, exclaimed: "Ah, woe is me! Bring me coffee at once."

Cabanés's book is full of suggestion, it shows the fluctuations of the therapeutic spirit, and is at least of use in the hands of students in instilling into them that spirit of skepticism which is the animating principle of Science.

EDITORIAL NOTES.

The Use of Formalin in Milk.

The war that is being waged against impure food, especially against the use of formalin in milk, is having its results. The use of this drug in milk has of late years reached a point that has become a positive menace to human life, especially in young children. The *Chicago Evening Post* in a recent issue has this to say in regard to the subject: "Formalin is not added to the milk to make it more wholesome. Commercialism never takes wholesomeness into consideration. The chemical is a powerful antiseptic and preservative. Added to milk it retards the ordinary natural process of souring. Thus in order to keep up the apparent commercial value of milk, dishonest dealers add a poison; they 'preserve' the outward physical characteristics of the milk, but destroy its wholesomeness." The statistics of the Department of

Health leave no doubt that the use of formalin in this way is an agent that increases the rate of infant mortality. In 1900, when the crusade began, the death-rate of infants under five years of age in Chicago was 43.5 in every thousand. That year the number of samples of milk examined was 19,053, of which 293 were found to contain formalin. Last year the death-rate for the ages mentioned was 34.7; the number of milk samples analyzed was 25,243, of which only 25 contained formalin. That is, the increase in the number of milk samples examined was 32.48 per cent, and the decrease in the number of formalin samples discovered was 91.4 per cent; the reduction in the infant mortality rate was one-fifth (20.2 per cent) in 1904 from the rate in 1900. "Seldom do we find the efforts of public health officers so clearly supported by results as they have been in this crusade against commercially poisoned milk, with its great reduction in the reprehensible practice and its corresponding falling off in the infant death-rate. The department can be measurably encouraged not only to continue its vigilance in this direction, but to widen it until the sacrifice of health through selfish and dishonest commercialism shall be wholly prevented."

The Passing of the Coroner.

The New York State legislature a short time ago passed a bill which abolished the office of coroner in New York City. In place of coroners, medical examiners have been substituted, and the work heretofore done by the coroners will be divided between the police and health departments. The example set by New York in abolishing a useless office ought to be followed by other cities. Coroners are absolutely unessential to the conduct of municipalities, and the office is usually sought for by politicians who see in it an opportunity for graft.

The Care of the Eyes and Ears of Schoolchildren.

The Vermont State legislature a short time since enacted a law for the better care of the health of children attending school in that State. Under this act the State Board of Health and the Superintendent of Education will be made to prepare test cards, blank record books, etc., to be used in testing the sight and hearing of schoolchildren, and necessary instructions for their use. These cards will be supplied the various public schools free of charge.

Each year the children's eyes and ears will be tested and a record of such examination kept. Principals of schools must give information in writing to the parent or guardian of any pupil found to have any defect of sight or hearing or disease of eyes or ears. A duplicate of this report is to be sent to the Superintendent of Education. Such a system as this has much to commend it, and many a child's health will be preserved by attention being called to defects of vision so commonly overlooked in young growing children.

Legislation Against Cigarettes.

Of all the absurd fads which occupy the minds of reformers who would make the world over by the enactment of laws, none is so ridiculous as the agitation against cigarettes. Already the zealous reformers have managed to have laws passed in Indiana, Wisconsin, and Nebraska in their favor. The Indiana laws are especially stringent, and already a number of arrests have been made of individuals who were found smoking cigarettes or had the material for their manufacture on their persons. There is no valid reason why cigarettes should be abolished. No possible harm can come to a healthy adult through the moderate use of cigarettes. To prohibit growing boys from their use is of course commendable, but why should not pipes and cigars also be placed under the ban? The causes of this reform are not hard to guess to any one at all familiar with the manner in which State legislatures are usually influenced.

Cerebrospinal Meningitis.

Of late a great deal has appeared in the newspapers about epidemic cerebrospinal meningitis, and as a consequence the public is becoming unnecessarily alarmed. The epidemic which has been going on in the East this winter is not much more severe than that which occurred several years ago. Statistics show that New York City has not been free from the disease in ten years. The deaths have varied from 178 in 1896 to 1010 in 1904. As every city has usually a few cases each year, there is not much fear that the disease will spread very much.

ITEMS AND NOTES.

THE London Medical Society has awarded its Fothergillian prize for 1905 to Sir F. Treves.

DR. DAVID LINN EDSALL has been elected assistant professor of medicine in the University of Pennsylvania.

THE Orange (N. J.) Board of Health is preparing to investigate the cats in the city with a view to preventing the spread of diphtheria.

THE St. Louis College of Physicians and Surgeons held commencement exercises on April 14, and fifty-four graduates received diplomas.

THE first doctor's degree conferred on a woman by the University of Marburg has been won by a Japanese lady, Miss Tada Urata, of Kumamoto.

THE South African Medical Congress will be held at Pietermaritzburg, Natal, June 12 to 17, 1905, under the auspices of the Natal branch of the British Medical Association.

A NUMBER of ladies belonging to the highest society in Rome have formed a committee to devise means for the relief of sufferers from ringworm, which is very prevalent in the Province of Rome.

GOVERNOR PENNYPACKER of Pennsylvania has signed the bill passed by the legislature making it a misdemeanor to use more than one per cent of boric acid compounds for the preservation of food commodities.

THE International Association of Climatologists will meet in annual session at Portland, Ore., July 11 to 14, 1905, under the presidency of Dr. John Davis Hartley, of Sacramento. The secretary is Mr. Chas. H. Peck, 259 William Street, New York.

THE Public Health Reports state that the government has ordered the closing of the large schools and has put in force many measures to prevent the introduction of plague in Santiago. The intensity of the epidemic in Pisaqua has somewhat diminished, though a despatch dated March 14 states that the population is greatly reduced.

Sir James Paget has followed up the lives of 1000 medical students who had joined the medical school of St. Bartholomew's Hospital, with the following result: Twenty-three met with distinguished success, 66 met with considerable success, 507 met with fair success, 124 met with very limited success, 56 failed, 96 discontinued medical studies while in pupilage, 11 died during pupilage, and 87 died within twelve years of commencing practice.

The midwives of Italy are shortly to meet in a national congress to be held at Milan. Intimations of adhesion have been received from the midwives' societies of Turin, Genoa, Milan, Bologna, Florence, Rome, and Cremona. The municipality of the city and the council of the province of Naples have promised their support. Addresses will be delivered by Professors A. Guzzoni of Messina, E. Pestalozza of Florence, and L. Bossi of Genoa.

The first naval hospital established in the Philippines was thrown open for the reception of patients on the 14th of April. It is situated on high ground jutting out into the sea at Canacao, and has a capacity of eighty beds. It is expected that it will be of great value to the medical department of the navy. The hospital site was formerly occupied by an old Spanish hospital, every vestige of which was removed before work was commenced on the present hospital.

It is reported from Paris by an exchange that Dr. Albert Robin, who a short time ago described good results in the treatment of pneumonia by the intravenous injection of metallic silver and manganese in the colloidal state, to which preparations he has given the name of metallic ferments, has been treating meningitis by the same method in the Hospital Beaujon. The injections are said to be followed by a decrease in the temperature and improvement in the general condition.

Meningitis has been raging several months in epidemic form in Silesia. Much alarm exists among the people, especially the laboring population, and many have fled from the district. The disease is beginning to make its appearance in other parts of the country. The epidemic in Silesia has assumed such an alarming form that the Prussian government has been petitioned regarding the measures taken to check it. About 1200 cases have occurred in the Oppeln district, with about 50 per cent of fatalities.

THE fifteenth congress of the alienists and neurologists of France and the French-speaking countries will be held this year at Rennes from August 1 to 7, under the presidency of Dr. A. Giraud, medical director of the Lunatic Asylum of Saint-Yon in the Seine Inferieure Department. The following are the questions proposed for discussion: (1) Hypochondriasis; (2) forms of ascending neuritis; (3) baths and hydrotherapy in the treatment of mental diseases. Communications should be addressed to the general secretary, Dr. J. Sizart, Médecin en chef de l'Asyle Publique des Alienes de Rennes.

THE surgeon-general of the army has sent out letters to chief surgeons calling their attention to the disregard of kitchen economy at army hospitals. It is found that too liberal advantage is taken of the existence of the special diet fund, and that many patients who might very properly subsist on the regular ration are permitted to draw upon the special diet. It is provided that hereafter there shall be precaution against extravagances of this kind. A circular has been issued by the chief surgeons of the Department of Dakota, based on the admonition of the surgeon-general.

THE mortality statistics of Prussia for 1903, with the causes of death, have just been published. Of 707,950 deceased, 14 died of smallpox, and one—the Berlin physician who contracted the disease during his experimental researches—of plague. Anthrax was the cause of 12 deaths, glanders of 3, insanity of 8. Of 10,000 people 28.08 died of digestive disorders; of old age, 20.92; of tuberculosis, 19.70; of pneumonia, 15.25; of diseases of the nervous system, 12.21; of cancer and other neoplasms, 6.59; of diphtheria, 4.9; of whooping-cough, 3.28; of measles, 2.73; in childbed, 2.28; 0.86 of erysipelas and other wound infections; 0.87 of typhus.

A CONGRESS of doctors, says *American Medicine,* from all parts of Russia was held in Moscow recently, ostensibly to consider means for combating an expected epidemic of cholera, but its proceedings assumed considerable of the character of a political assemblage. Resolutions were adopted declaring that under existing political and economic conditions it would be practically impossible to fight an epidemic of disease, as doctors and inspectors would not be safe from attack by ignorant peasants angered by the prevalent distress. The resolutions proceeded to demand changes in the system of allotment of lands, reform in taxation;

the convoking of an elective constituent assembly, and other articles of the advanced liberal programme. Since that time a number of those taking part in the proceedings have been arrested.

Prof. Wilhelm Roentgen, the discoverer of the rays that bear his name, has just celebrated his sixtieth birthday. He was born in Lennep, a small place near the Rhine, studied and took his degree in Zurich, and was afterward for several years the assistant of Professor Kundt, the physicist. In 1876 he was appointed Professor Extraordinarius in the Strasburg University, and received a full Ordinarius Professorship at the comparatively early age of thirty-four. At present he belongs to the Munich University, having been called there shortly after his celebrated discovery. Berlin has honored Roentgen by placing his bronze statue on the Potsdamer Bruke, a bridge in the best part of the town, where he has a place near Gauss, Werner, von Siemens, and Helmholtz. He is the only one of the four still alive.

It is reported that plans are being formed by the various fraternal associations of the United States to found a new city in New Mexico for the purpose of caring especially for such members of the various fraternal organizations as may be affected with pulmonary tuberculosis. The purchase contemplates upward of 50,000 acres of land at an altitude of from 4300 to 9000 feet, and with the full facilities for caring for 50,000 patients. This "Fraternal City," as it will be called, will be, says *American Medicine*, on the municipal ownership plan, and stock-raising and garden trucking will be offered to those desiring to work while recovering their health. At the head of the project, as president and chairman of the executive committee, is W. R. Eidson, president of the Associated Fraternities of America, representing 3,000,000 members. A tax of a cent per month per capita has been fixed as the amount to be placed against the various fraternalists in the country. The direct location of the city has not yet been determined, but it is reported that the influence of two rival railroads is being pushed to the limit to secure favorable consideration, and that one prominent railroad officer has pledged $100,000 in cash if the sanatorium is located anywhere along his line.

NEW PUBLICATIONS.

THE PSYCHOLOGY AND PATHOLOGY OF HANDWRITING.

In order to write this book the author tells us that she has had to construct a new system of psychology, finding that she was unable to make use of the existing system. A cursory perusal of her work leaves us in doubt as to her success. She has written a technical book upon handwriting which is certainly different in style and manner to any work upon the subject which has preceded it. The reader will probably not be disposed to take for granted much that the author states in pragmatic terms, but the book will be found interesting and suggestive.

Psychology and Pathology of Handwriting. By Magdalene Kintzel-Thumm. Translated from the German by Magdalene Kintzel-Thumm. Fowler & Wells Co., New York; L. N. Fowler & Co., London, Publishers.

INTERNATIONAL CLINICS.

The new number of International Clinics contains more than the ordinary instalment of good things. In addition to the usual number of clinical lectures will be found the interesting and useful epitome on the progress of medicine during the year 1904. The excellence of the work is so well known that it needs no recommendation, and it will continue to enjoy its popularity so long as it maintains its present high standard of excellence.

International Clinics. By Leading Members of the Medical Profession throughout the World. Vol. I, 15th Series. J. B. Lippincott Co., Philadelphia, Pa.

THE EYE, MIND, ENERGY, AND MATTER.

This little book is apparently written from the transcendental standpoint, telling us that thought is function of the soul without informing us of the nature of either thought or soul. It discusses many interesting points of view regarding brain strain, the drink habit, and ocular defects. The reader from his perusal of the book must draw his own conclusions as to the purpose for which it is written, but probably its main purpose is to emphasize the value of treatment in conditions of eye-strain.

The Eye, Mind, Energy, and Matter. By Chalmers Prentice, M.D. Chicago, Ill.: Published by the Author, 1905.

DIET AND NUTRITION.

This little work contains certain articles written at various times by the author in explanation of the problems of diet and nutrition. It is needless to say that these articles are excellent in all respects and reflect the thoughtful and scientific spirit of their author. They are models of concise information, and will supply the practitioner with knowledge of diet and nutrition, which after all is the beginning of all therapeutics.

Practical Problems of Diet and Nutrition. By Max Einhorn, M.D. William Wood & Co., New York.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Clinical Forms of Gastric Carcinoma.

L. Bard (*British Medical Journal*, March 25, 1905) emphasizes the importance of grouping cancers of the stomach according to their clinical symptoms rather than to their mere pathological appearances. He divides them first into two groups, pyloric and extrapyloric. In the former troubles of motility and of passage predominate; in the latter glandular perversions and digestive troubles; hence we have two great clinical syndromes. Each group he again subdivides into forms typiques, frustes, and larvees. The pyloric forms, when typical, produce dilatation of the stomach; they are easy to diagnose from other cancers, difficult from other forms of stenosis. There are three varieties: (1) Annular stenotic cancer; (2) juxtapyloric cancer with secondary stenosis; (3) prepyloric ulcerative cancer. In Nos. 1 and 3 cachexia is often absent. The distinction between juxtapyloric cancer on the side of the small intestine and primary stenotic cancer is important. The former is separated by two signs. The later supervention of the syndrome of stenosis and characteristic vomiting, which in place of appearing first, as in the primary form, is preceded by a phase of simple dyspepsia, emaciation, and loss of strength; and secondly, the production of hypertrophy of the stomach without notable dilatation and descent of the colon. Stenosis following late in a patient already anorexic on an organ already invaded and fixed by adhesions cannot exercise on it an effect as powerful as on a healthy organ keeping its digestive power and subject to copious ingesta. Pyloric ulcerative cancer has a slower progress, is more subject to recurrences, and it causes more severe pain and more frequent hemorrhages than the other two forms. The stenosis is more spasmodic than organic and the cachexia is little marked.. This variety is the result of cancer developing upon an ulcer. The form fruste is the colloid cancer. This produces pyloric insufficiency, not stenosis; there is no dilatation, habitual diarrhea replaces the vomiting of typical forms, and cachexia is marked. The form larvee is represented by the cylindroidal submucous variety; its cancerous nature is still contestable. It stimulates esophageal trouble, vomiting comes on rapidly after

food, and there is considerable diminution in the size of the stomach.

Extrapyloric forms: The typical ones answer to the ordinary classical description of stomach cancer. The formes frustes are two: (1) a painful dyspeptic form simulating ulcer or gastritis; and (2) a cachectic form without gastric phenomena. The formes larvees simulate pernicious anemia, cancer of the esophagus or liver, tuberculous peritonitis, etc. The author thinks operative measures are most satisfactory in annular pyloric cancer, ulcerative forms, and the dyspeptic type of extrapyloric cancer.

The Mortality of Appendicitis.

C. W. Barrett (*Journal of the American Medical Association,* April 15, 1905) says that to decrease the mortality of appendicitis an early diagnosis is the first consideration. All troublesome appendices should be removed without waiting for an acute attack. All acute cases should be dealt with surgically in the interval between the onset of appendicitis and the dangerous rupture, without waiting for pus outside the appendix, for peritonitis, for adhesions, or for a possible but remote interval. Cases of perforation or gangrene with localized abscess should be operated on with drainage or removal of the appendix, according to the judgment of the operator.

Cases with perforation or gangrene without a wall of adhesion are in still greater need of an outlet for the infection to lessen the tendency of infection to travel inward.

Price, Murphy, Hawkes, and others have shown a better percentage of recovery by the operative treatment of acute perforative peritonitis. A case of acute appendicitis should be operated on at any time if the patient's condition will admit of an operation, unless the case is rapidly and beyond a question of doubt convalescing. And in this latter case we should wait until all acute symptoms have passed. Healthy appendices should be left alone.

The proper treatment as indicated above does not contraindicate the use of stomach lavage or the withholding of food, and when proper these things should be employed with or without operation.

Lastly, life is not the only consideration. Time of cure and after conditions are important. A patient going through an acute attack without operation is saved by the adhesions. Adhesions are life-saving for the time, but they may be death-dealing

afterward. The waiting treatment favors adhesions; the early operation avoids them. An early operation sends the patient home in from ten days to three weeks. Twelve cases treated by the rest treatment, reported in the *Journal of the American Medical Association* of June 22, 1901, show an average of 60.5 days from the onset of the disease to the discharge from the hospital.

Etiology of Enlarged Prostate.

L. B. Bangs (*Medical Record,* April 8, 1905) considers that the inflammatory theory appears to be the one which accounts for the onset of this malady, which explains the changes in the gland, and which has the most and the strongest evidence in support of it. According to histologic examinations the point of origin seems to be in the prostatic urethra, extending thence along the gland ducts from the urethra toward the periphery of the prostate, the round-celled infiltration being most marked in the vicinity of the verumontanum. The early involvement of the verumontanum is in accord with the clinical observation that excessive sensibility and congestion of this region are very often noted in individuals who have practiced some form of sexual irregularity. Hypertrophy of the prostate is not a senile disease, but begins in early manhood, and is dependent on unphysiologic sexual life, leading to abnormal hyperemia of the gland. A careful analysis of the histories of 300 patients of all ranks having unmistakable enlargement showed that over 85 per cent were subjects of abnormal or unphysiologic sexual indulgences which were excessive in degree and continued for years. In the 15 per cent remaining the primary prostatic congestion was apparently due to a disarrangement of the portal circulation. Gonorrhea alone is not sufficient to produce the malady. The following prophylactic rules are given: (1) Sexual instruction in boyhood; (2) chastity in youth; (3) sexual self-restraint in early manhood; and (4) the physiologic sexual relations in the married state.

Lumbar Puncture and Fractures of the Cranium.

D. Pinchart (*British Medical Journal,* April 8, 1905), in considering the importance of lumbar puncture in the diagnosis of head injury, points out that the presence of blood in the cerebrospinal fluid cannot be regarded as a constant and reliable indication of fracture of the cranium. The fluid may be free from blood

in certain cases of fracture, and show signs of its presence in cases of cerebral hemorrhage of an exclusively medical kind. The differential diagnosis between fracture and apoplexy may become difficult in cases in which the attack of cerebral hemorrhage has caused a fall on the head. The author reports three cases of cranial fracture, in each of which blood-stained fluid was withdrawn on lumbar puncture. In discussing the value of this sign in regard to prognosis and the indications for operative treatment, he states that its absence in a clear case of cranial fracture with symptoms of compression should from its pointing to extradural hemorrhage lead the surgeon to trephine without delay. If, on the other hand, the fluid removed by puncture be blood-stained, then he holds it would be as well as a rule to refrain from operative intervention, as the presence of blood would indicate diffused intradural hemorrhage and more or less laceration of the brain. In such cases lumbar puncture may prove of therapeutic as well as diagnostic value by relieving the cerebral compression. Reference is made to a case recorded by Poirier in which grave symptoms following an injury to the head were effectually relieved after the removal by lumbar puncture of 40 cubic centimeters of cerebrospinal fluid.

Flatfoot.

Bossi (*Archiv. di Ortoped.; British Medical Journal,* March 25, 1905) after giving an account of the pathological anatomy of the various parts affected—the bones, soft parts, ligaments, etc.—passes on to a discussion of the chief symptoms, pointing out, amongst other things, the outward displacement of the tendon of the tibialis anticus, which assumes a distinctly abductor action. Bossi lays stress on this displacement of the tendon, as it has much importance in considering the treatment of flatfoot. The different forms of flatfoot receive separate treatment—for example, the traumatic, paralytic, spastic, tabetic, varicose, and rachitic types. A section is devoted to prognosis and diagnosis, and this is followed by an account of the various methods of treatment, with illustrative cases. Flatfoot is a deformity which leads to many and complex changes; it is to the foot what scoliosis is to the back, and might indeed be called the scoliosis of the foot. Open operation upon the tendons or bones is not sufficient; to be adequate such an operation would be too complex to be practical. The most rational treatment is forcible straightening—manual or instrumental—followed by bandaging. However, the author

would not exclude all open operations in every case. Sometimes benefit is gained by tendon shortening or transplantation. On the other hand, he believes most operations on the bones are irrational, as by this method articulations are abolished and one displacement in the system of arches merely replaced by another.

MEDICINE.

Adaptation and Tuberculosis.

J. G. Adami (*American Medicine*, April 29, 1905) emphasizes the fact that in infectious diseases in general, while the bacteria grow more particularly in one organ or tissue, the successful counteraction of the disease is not a local matter; in fact, the tissues of the infected organ are so injured that they cannot themselves play any very active part. The counteraction is by the rest of the organism—in part by the leucocytes developed in the bone-marrow and elsewhere, in part by other tissues, which discharge into the blood diffusible antitoxic and bactericidal substances. He calls attention particularly to the recent observations of Wright and Douglas that the phagocytic activity of the leucocytes is not called into play to any extent unless the blood serum contains certain substances which activate the leucocytes. These substances appear to be developed apart from the leucocytes—that is to say, by other tissues of the body. Applying these considerations to tuberculosis he points out that when the tubercle bacilli grow locally there is a slow diffusion out of their toxins, and it is by the adaptation of the rest of the tissues to these toxins that the leucocytes and these other tissues become accustomed to produce diffusible antibacterial substances. In favorable cases these are present in amounts so considerable that the local growth of the tubercle bacilli is arrested, and healing tends to ensue. Post-mortem observations show that this arrest is the rule rather than the exception.

Applying these considerations to the treatment of tuberculosis, he shows first that the tuberculin treatment is but an attempt to carry out the natural process; that the tuberculin is merely a concentrated extract of the toxins of the bacilli, and these are now injected into the organism at a distance from the site of local growth of the bacilli. Their action must be to stimulate the cells of the rest of the organism, and to produce increased amounts of antibacterial substances. The cells, however, may be in a state of

low vitality, so that they do not react, and hence this treatment is by no means constantly successful. Modern treatment similarly, he points out, is a carrying forward of the same idea. The disease as such is left severely alone; every attempt is made to improve the general tone of the organism by rest, good food, and fresh air. The cells gain improved tone and respond to the toxins, producing increased quantites of the antitoxic and antibacterial substances. Here, again, it is the body as a whole and not the local reaction that brings about arrest of the tuberculous process.

The adaptive processes on the part of the bacilli are next considered. These also are capable of being modified according to alterations in their environment, so that by passage they are found to adapt themselves more and more to the organism of any particular species. By passage through the organism of one species the bacilli may become less and less adapted to grow in the organism of another species. Dr. Adami is of the opinion that this is the case in general, and with tubercle bacilli grown in the human and bovine organism respectively in particular.

Apyretic Pneumonia.

A. Lover (*British Medical Journal,* March 18, 1905) reports the case of a robust healthy man aged sixty-two who was admitted into hospital with an ordinary febrile attack of acute lobar pneumonia affecting the right lower lobe behind. This pursued an ordinary course, and resolved without complications on the tenth day. Two days later the patient developed pneumonia of the right upper lobe, which began to clear up on the thirteenth day, and completely disappeared on the eighteenth. The unusual feature about this second attack, which was accompanied by the typical signs of lobar pneumonia, was the complete absence of pyrexia during the whole period, the temperature (rectal) being always below 37.5° C. In the second attack there was considerable delirium and well-marked orange sputa. Apyretic pneumonia in the aged or prematurely broken-down subject is not uncommon, but in the author's patient the man was of robust and sound constitution and made a complete recovery. The blood serum taken from the arm agglutinated 1 to 5 with the Fraenkel diplococcus. The author has collected three or four similar cases of apyrexia in pneumonia, but they are very rare..

Autopsy Findings in Epilepsy.

B. Onuf (*Journal of the American Medical Association,* April 29, 1905) reports the results of careful autopsies on sixteen epileptics at the New York State Institution for Epileptics. In twelve cases there were valvular changes of the heart, most frequently of the mitral valve (80 per cent), less so of the aorta, and still less frequently of the tricuspid valves. These he considers generally as secondary results of the special strain due to the major epileptic attacks. Capillary changes, tortuosity, and aneurismal dilatations were observed in several cases, and were attributed to the same causes. In eight of the cases where the lungs were examined there was acute pneumonia as a contributory cause of death. The cerebral changes were very striking. In ten cases there was a marked thickening of the pia, chiefly over the frontoparietal lobe. In other cases there were vascular lesions, circumscribed atrophy of one frontal lobe, subdural hemorrhage (one case), internal hydrocephalus (one case), cerebellar cyst (one case), and shrinkage of convolutions of vermis and adjoining cortex (three cases). The most striking changes, however, were noted in the thalamic region. These were in the nature of atrophy, sometimes the pulvinar, sometimes the other, portions being most markedly affected. There was also an apparent discrepancy in the proportions of the geniculate bodies.

Onuf discusses the possible relations of these thalamic changes to the epilepsy, but does not venture to express an opinion as to whether they are directly connected with the seizures or are only part of a general pathologic condition of the brain. He suggests that there was probably an optic atrophy in some of these cases, and hence the importance of fundal examination in epileptics. The importance of good clinical histories in these cases is also emphasized.

Coli-bacillary Cystitis in Children.

B. N. Cherno-Schwarz (*Archives of Pediatrics,* April, 1905) says that since the first observations of Escherich on cystitis due to the colon bacillus, numerous authors have been able to confirm this etiology and to establish the fact that cystitis in childhood not infrequently appears as a complication of gastro-intestinal disturbances. The clinical picture of coli-bacillary cystitis presents a variety of manifestations in all grades of severity. At times subjective symptoms are entirely absent, and

only the urine bears testimony to the affection; again the disease runs a violent course with sharp local and general phenomena. Between these extremes are transitional forms of every grade of severity.

The author contributes the history of several new cases which clearly illustrate the usual mode of origin of colicystitis, namely, through migration of the bacilli from the rectum into the bladder via the urethra. Three patients were girls, and this avenue of infection notoriously holds good for females. In the fourth patient, a male, the bacilli probably reached the bladder from the rectum by way of the intermediate connective tissue, which in this case lay near an abscess communicating with the bowel.

Let the Lungs Alone in Consumption.

W. Hutchinson (*Medical Record,* April 29, 1905) says that we have learned by bitter experience that we must practically ignore the bacillus in our treatment of the consumptive, and that we are coming to the same point of view in regard to the lungs. Among the reasons for letting the lungs alone in treatment is the fact that very few remedial measures at our command have any specific action whatever on the lungs, and it is being more and more clearly recognized that consumption is not properly speaking a disease of the lungs, but is merely a local (pulmonary) expression of a disease which involves the entire system. We have no tonics or alteratives which will improve the nutrition of the lungs, and even the expectorant drugs have been proved to be lacking in the virtues formerly ascribed to them. Sprays, etc., are ineffectual in reaching the bronchi, and in most cases the so-called pulmonary gymnastics and exercises serve simply to drive the infectious material deeper into the hitherto uninvaded areas of the lungs. The author has already shown that the chest of the consumptive is round instead of flat, and that exercises intended to develop the chest as such do harm instead of good. Bodily exercise of any kind is now believed to be distinctly injurious, and absolute rest is indicated in any case in which the afternoon temperature rises above 100°.

Researches by Robin and Binet made over four years ago on the actual gaseous interchange in consumptives have shown that the tuberculous patient consumes a greater amount of oxygen and gives off more carbon dioxide in proportion to his body weight than the normal individual. In short, it would appear highly

probable that the tuberculous patient is to be regarded in the light of one who is pouring nearly half the heat of the fuel which is burned in his body furnace up the chimney in the form of smoke; that the food which he takes, instead of being assimilated and decomposed by anaerobic processes in the body cells, is burned in the blood and the lungs. Any means, therefore, which will tend, so to speak, to clog the throat of his chimney and prevent this fatal escape of heat and energy, whether by drugs like creosote, iodoform, cod-liver oil, and arsenic, or by pouring in an enormous quantity of food rich in heat value, will tend to restore the balance of gaseous interchange, and enable him to return to the normal.

THERAPEUTICS.

The Dangers of Overfeeding in Cases of Suspected Tuberculosis.

At a recent meeting of the Paris Therapeutical Society, M. Bardet (*Lancet,* March 25, 1905) read a paper on the above subject. He cited the case of a patient who on account of loss of weight and some pulmonary symptoms was considered to have tuberculosis, and who was therefore sent to Montreaux. Here he mended rapidly, so that the local practitioner denied the existence of tuberculosis. Returning to Paris he continued his overfeeding, and had no cough, or at least only a "hysterical" (Quinteuse) or nervous cough. Nevertheless he suffered extremely, being prone for many months to crises lasting for variable periods of time, signalized by wandering pains, which were most commonly felt in the neck, the jaw, or the upper part of the back. So severe were these pains that his medical advisers began to suspect the existence of tuberculous disease of the spine. The real explanation, however, turned out to be autointoxication from overfeeding in a patient affected by latent dyspepsia. This condition it was which gave rise to the cough and the neuralgia. Whenever he lost weight the cause was dyspepsia. M. Bardet therefore put him on a strict regimen. According to the patient's statements the total amount of his food could be estimated as a quantity representing a mean of 5000 calories per diem and 300 grammes of albumen. M. Bardet considered that he only needed from 2000 to 2200 calories and 60 grammes of albumen. After some weeks the patient had gained three kilogrammes in weight, while the cough and the pains disappeared. M. Bardet argued

that this case showed very well that the best way to fatten a patient is to feed him on a quantity of food which is strictly proportional to his physiological powers of dealing with the same.

Treatment of Epidemic Cerebrospinal Meningitis.

Lenhartz (*Münchener med. Wochenschrift,* lii, No. 12) has treated during the last ten years 45 cases, and his experience has proved to him that repeated lumbar puncture has a marked beneficial effect on the disease. In the case of a young woman the punctures were repeated during six days, and then twice again at long intervals. At the first two punctures the pressure of the cerebrospinal fluid was 360 and 430 millimeters, and 14 and 24 cubic centimeters of fluid were drawn off. The leucocytes were 22,000. He mentions another case in which puncture was used to avert impending hydrocephalus. On the fortieth day of the disease the symptoms of the case pointed to this complication, and puncture showed a pressure of 490 and 320 millimeters. After drawing off 25 and 37 cubic centimeters the condition improved markedly, but grave symptoms reappeared two days later, and the puncture was repeated that night and morning, after which the patient, a young man, was allowed to sit up for one hour. Complete recovery followed. The writer warns against withdrawing more than 50 cubic centimeters of fluid. Weichselbaum's diplococcus was found in 40 out of the 45 cases.

Alcohol Dressings.

Brugger (*Deutsche med. Wochenschrift,* xxi, No. 7) advocates the use of permanent alcohol dressings for the relief of pain, inflammation, and suppuration of all kinds. The dressings must be thick and kept moist, but not wet, with alcohol. A bag of fine sawdust has been used with good success by Vollbrecht; this fits the parts like a soft cushion and keeps moist for about twenty-four hours. The pain and inflammation rapidly subside, and the general effects are good. Alcohol dressings are useful alike to the hospital surgeon and the general practitioner. There are no disadvantages save the trifling and evanescent puckering of the skin, which soon disappears, and the danger of fire.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Destructive Skin Diseases, Epithelioma, Lupus Vulgaris, and Syphilis.

Henry W. Stelwagon (*American Medicine*, April 22, 1905) directs attention to the diagnostic value of ulceration, scarring, or both, as a factor in chronic skin diseases, and especially when the disease is of limited area, as it points in an overwhelming majority of cases to either epithelioma, lupus vulgaris, or syphilis; the smallest proportion of such cases belong to lupus. Many of the so-called lupus cases reported in the various journals in the past several years by those unskilled in dermatologic differences, in connection with Roentgen ray reports, were, if the histories were correct, examples of the rodent ulcer type of epithelioma, and some examples of the tubercular syphiloderm. In some instances this conclusion was confirmed by the accompanying photographs. Apparently a diagnosis of syphilis is often only made when a clear or suspicious history is obtainable, or the patient's virtue doubtful, whereas the fact is that women not infrequently contract the disease innocently from their husbands, or may have mild or overlooked secondary symptoms; and further, that cases of extragenital chancres, whose nature may not have been recognized, are not at all uncommon, and the cutaneous disturbances following may be misinterpreted. In epithelioma the best plan of treatment is the removal of the morbid tissue by incision, curette supplemented by caustic application, or by caustic alone, according to the individual case; this treatment is to be supplemented by Roentgen ray exposures. While Roentgen treatment alone will frequently suffice, it is in many instances tedious and often stops short of complete cure, and except in particular cases should not be advised as the sole method without stating to the patient the probable tediousness and the possibility of stopping short of complete removal. In lupus the most rapid results may be obtained by the destructive methods mentioned, followed by the Roentgen ray. But Stelwagon believes the Finsen light treatment and the treatment by caustic, pyrogallol, or arsenical salves, followed by the Finsen or Roentgen ray treatment, to be the most valuable. The Finsen

treatment is valuable, but it is expensive, tedious, and its application requires a trained assistant; and in many instances the Roentgen ray will do the same, and with much less trouble.

In late syphilitic ulcerative or nodular eruptions the ordinary mixed treatment is usually quickly successful, but in some instances, and especially when the eruption is seated about the nose or the palm, the malady is rebellious, and inunctions must often be resorted to before the disease yields.

Erysipelas with an Excessive Production of Fibrin.

R. Floyd's (*Medical Record*, April 22, 1905) patient was a coachman thirty-eight years old, who in addition to the usual lesions of erysipelas exhibited an exudate of fibrin so excessive and so disposed as to constitute a croupous inflammation presenting the same essential characters as a croupous colitis or a croupous inflammation of the throat. The man presented symptoms of an ordinary erysipelas of the hand and forearm, until on the seventh day vesicles began to form. These became confluent bullæ extending over the dorsum of the hand and the lower half of the forearm. On removing their epidermal covering a layer of fibrinous false membrane, varying in thickness from three-eighths to one-eighth inch and less, was revealed. On the thirteenth day the erysipelas was practically over, though convalescence was retarded by the slow healing of an ulcer on the back of the hand and wrist.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

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Blood in Milk: Intramammary Hemorrhage.

B. Jeannin (*British Medical Journal*, March 18, 1905) observed this rare condition in a woman admitted pregnant into hospital, with edema of the legs and vulva and hydramnios, but no albuminuria. Ten days later she was spontaneously delivered of a child over 7¾ pounds in weight. During delivery a little chocolate-colored fluid escaped from both nipples, and it appeared that this discharge had been noticed for over a week. It continued more freely during the first eight days of the puerperium;

the mother's health was good, but the child was nourished artificially. At the end of a week the patient was isolated, as she showed symptoms of bilateral galactophoritis, with rise of temperature in the evening. After a week of appropriate treatment the patient regained perfect health, and the milk for the first time became white. On analysis of the red discharge, it was found on settling to divide into three layers, the deepest being pure blood, the most superficial milk poor in butter, the middle a mixture of blood and milk. Colonies of staphylococcus aureus and bacillus coli were developed in cultures. The blood could only have proceeded from an intramammary hemorrhage, but the cause of the bleeding was unknown, nor could the attack of galactophoritis during the puerperium be explained, as the child was not suckled and there was no evidence of infection through the genital tract.

Hysterectomy for Fibroids of the Uterus.

John B. Deaver (*American Medicine,* April 15, 1905) says that fibroids of the uterus do not require removal unless they are productive of symptoms, but when they do become symptom-producing they should be removed promptly before the patient has been weakened by toxemia, hemorrhage, or sepsis.

Abdominal supravaginal hysterectomy is the operation to be preferred in the vast majority of cases.

Myomectomy is applicable only to younger women, in whom the tumors are few in number and subperitoneal in character.

Panhysterectomy is to be employed only when intraligamentary growths, whether uterine or ovarian, render the performance of supravaginal amputation difficult or dangerous.

The ovaries, or a part of one ovary, should be preserved in every woman who has not yet reached the age of the menopause, unless they are distinctly and indisputably diseased, or unless their retention would needlessly prolong and complicate the operation.

The Conduct of the Perineal Stage in Normal Labor.

B. A. Fedde (*Medical Record,* April 29, 1905) describes as follows a method of supporting the perineum which he says was introduced by Dr. Asa B. Davis. It consists in arresting the progress of the head by direct pressure when the biparietal diameter has passed the ischiopubic rami, and before it has

reached the rima pudendi; then by gentle manipulations with the other hand, thumb and fingers on the opposite sides of the vulva, slipping the labia first over the parietal eminences, then backward over the forehead and face without allowing the head to extend until it is fully delivered. By pressure back of the anus with the hypothenar eminence the head meanwhile is maintained in flexion close under the pubis. In practice one receives the impression that tension actually diminishes with the progress of delivery. The author administers chloroform to the point of cessation of the pains just before delivery, and the patient is turned on the side until the vulva has been slipped over the parietal eminences and the face. Chloroform is then withdrawn, and the delivery completed in the dorsal position.

Pseudoascites in Ovarian Tumors.

Hörmann (*Münchener med. Wochenschrift,* lii, No. 12) urges exploratory laparotomy even when a diagnosis of malignancy is certain. He cites two cases, one of which was diagnosed from its symptoms as carcinoma of the ovaries with metastases in the cul-de-sac, and was complicated with marked ascites. The tumor was the size of a man's head, and was found to be a benign cystadenoma; the effusion had been pouring out of it through a perforation. This fluid had produced symptoms of irritation in the cul-de-sac, which had been mistaken for metastases. If it had not been for the routine practice of exploratory laparotomy as practiced in von Winkel's clinic this case would have been diagnosed as inoperable and hopeless.

Spontaneous Ventrofixation Leading to Retention of the Placenta.

A. Fuchs (*British Gynecological Journal,* February, 1905) reports a case of a secundipara on whom owing to a mistaken diagnosis laparotomy had been performed a year previously. Instead of the suspected ovarian tumor there was pregnancy, which terminated prematurely two months later. Labor was easy, except that the placenta had to be detached manually, owing to the absence of contraction of the anterior wall of the uterus on which it was situated. This complication is attributed by Fuchs to adhesions between the uterine and abdominal walls consequent on the untimely laparotomy.

THE MEDICAL AGE

Vol. XXIII. DETROIT, JUNE 10, 1905. No. 11.

ORIGINAL CONTRIBUTIONS.

HOW TUBERCULOSIS WILL BE EVENTUALLY ERADICATED.

BY J. HOWE ADAMS, M.D., PAOLI, PA.

Great waves sweep over the medical profession from time to time. Now the minds of the profession are centered on antisepsis, then naturally on surgery, and now on antisepsis in medicine. The feature of this present agitation of antisepsis in medicine is the attack on tuberculosis. Fifteen years ago, when the writer graduated from the University of Pennsylvania, medicine as contradistinguished from surgery was held in contempt by the students of his time. It is true that we had Pepper, Wood, and Osler on our staff of teachers, and our sister institution Jefferson had DaCosta, yet it was to surgery and surgeons that the medical student looked with the most approving eye. The older surgeons, such brilliant men as Agnew, Ashhurst, and Keen, of course said nothing, but the younger surgeons were loud in their expressions of contempt for the purely medical man. I well remember while physician to the medical dispensary of the University Hospital that a brilliant young surgeon walked into our rooms and openly announced that one of our men was "dirt" —because, he said, "you know dirt is simply matter misplaced, and he should be over in the surgical dispensary."

We bore our burdens as cheerfully as we could, but even to us there were many things that taxed our patience. One of these subjects was the question of tuberculosis, especially pulmonary tuberculosis. Koch had just made his brilliant failure, and if any subject looked dead, repellant, and blankly hopeless, it was this question.

The progress of the past fifteen years has been largely medical progress, not surgical. It is in the purely medical subjects that the advances have been made, such as the antitoxin treatment in diphtheria, the discovery of the rôle of the mosquito in

yellow fever and malaria, the introduction of many new and efficient drugs, and finally the herculean attempt at eradicating tuberculosis. This last attempt has been more courageous, for as yet we have no genuine specific for its treatment, but have been forced to use methods as old as time itself.

In the past five years there has been a tremendous increase in the number of sanatoria both in this country and abroad. In a recent paper published in the *Journal of the American Medical Association* Knopf, who has been a great factor in this work, publishes the list of sanatoria in America with their locations and capacities. This list shows that there are one hundred and seventy-eight of these institutions in the United States, and twenty dispensaries and clinics, devoted exclusively to this work. While this is a very small number of institutions in proportion to the work to be done, yet the encouraging feature is that the medical profession and the public are now aroused fully to the necessity for these institutions, and that means that the work is really half done.

Now that these institutions are growing in number, it is well that they should adopt some definite name. Such a title as "Home for Consumptives" is both misleading and unfortunate: in the first place the word "home," like the term "asylum," has an unhappy significance, for it implies that the consumptive will remain there until his death. On the other hand, the word "sanitarium" is applied rather by the public to retreats for the treatment of nervous or mental diseases, so that the term "sanatorium" is better English, and one that should be definitely adopted for this class of institutions. In looking over the list of institutions as published by Dr. Knopf, I am glad to see that this term is being very generally adopted.

Not more than twenty-five per cent of tuberculous patients are brought under treatment for phthisis until the disease is well advanced; therefore, in considering the sanatorium treatment, we must have two objects in view, as pointed out by Bryce: (1) The cure of the disease, and (2) the prolongation of the lives of patients and the removal of infectious cases from surroundings in which they are a menace to others. In sanatoria, unfortunately, if under governmental or municipal control, we must remember that the advanced patient will claim equal rights with those in the primary stage; therefore the erection of cottage hospitals is essential. In these institutions every detail must be considered with the most rigid care. For example, one of the most rigid rules should be that patients shall not be allowed to

discuss their own or other cases other than with their physicians. Wholesome mental employment must be the means to attain this end. One method is to make each patient keep a diary in the form of a time card, on which all daily routine is to be recorded. If the patient's temperature runs in the afternoon to 100° he should be put to bed and kept there; during this period he can be wheeled daily to an open window or protected balcony. As a rule systematic treatment of his pyrexia is unnecessary. When the fever is reduced the patient can be allowed to recline on an adjustable reclining chair on a protected balcony; in some sanatoria this treatment is continued from 9 A.M. to 9 P.M., after which the patient goes to bed, and sleeps even in winter with the window open all night, being protected by a screen from the wind.

The majority of sanatoria now decide for themselves what patients can perform exercise; in a philanthropic institution it should be work for their own support. A generous supporting diet of well-cooked, palatable food is most vital. The utility of fats and oils depends on three factors: (1) they serve, owing to their oily nature and their being broken up in the intestines into fatty acids and glycerin, as laxatives and lubricants to the walls of the intestines; (2) they are acted upon by bacteria only slightly, although in the absence of bile and pancreatic juice they may be decomposed into fatty acids and be discharged unabsorbed; (3) when absorbed by the epithelium of the villi they are carried directly to the central lacteals, and thence directly to the thoracic duct, instead of going, as in the case of starches and proteids, into the portal circulation for elaboration in the liver.

This question of the absorption of oil has been carefully studied in Vienna by Konrad Stich, who attempted first to decide whether the solution of phosphorus in oil, generally cod-liver oil, is really useful. He found that with air added .0002 gramme of phosphorus was shown by Mittscherlich's method, that weak solutions of oil will keep their phosphorus for some time, but in strong solution (1:100) the phosphorus will diminish, oxidation and the production of yellow phosphorus lowering the strength. To keep phosphorus dissolved in oil one to one hundred it is necessary to fill the bottle above the solution with carbon dioxide. When used, it should be diluted one to a thousand and placed in small bottles. Phosphorus in oil kept in half-filled bottles will oxidize with the production of amorphous phosphorus. These experiments show that phosphorus is a difficult drug to use in oil.

Some years ago Ulrich in a paper before the American Congress of Tuberculosis rather startled the delegates by his suggestions for the treatment of confirmed consumptives. He said: "In regard to confirmed consumptives, who have passed the years of childhood and for whom there is no hope for recovery, with nothing before them but a life of misery, I am going to say something that may be stigmatized as unfeeling and cruel. But on the principle of the greatest good to the greatest number, I regard the idea as humane. I do not refer to what was at one time advocated by many physicians under the title of 'Euthanasia,' because in this age of exaggerated humanity it would not be permitted even if its general benefits to mankind were proved beyond a shadow of a doubt. What I wish to suggest is this: In every case of confirmed and hopeless tuberculosis desist from all efforts to prolong life, devoting your entire energy to making your patient as comfortable as possible, even if the means employed should have a tendency to shorten life. For if you lengthen out the span of a miserable existence, permitting the unhappy being to marry and send out into the world an infected progeny, to increase the aggregate of suffering in geometric progression until the earth is filled with pale, emaciated, unhappy, useless, life-marring men and women, do you feel you have accomplished a humanitarian work?"

This is scarcely good medicine or good ethics, and the suggestion did not meet with much favor.

In our anxiety to curb this dread disease we must remember that we can carry our ideas of contamination and disinfection too far. Some years ago I wrote for the MEDICAL AGE an article, "Shall We Make Our Consumptives Social Outcasts," which was the result of experiences in the Adirondacks. As a postscript I would say that the patients described in that article, driven by fear of contagion into the woods, have all died, the result of exposure and lack of care. In other words, the world has jumped from the extreme of carelessness to one of panic, which is as senseless and unnecessary as the former attitude. Only within a short time I clipped the following note from the papers:

> The isolation of consumptives on railroad trains is planned in Chicago. Railroad men admit the present danger of the spread of the disease, and refer the matter to the Pullman Company, which controls the sleeping cars. The plan for reform was promulgated as the result of numerous protests against the peril in journeying with men afflicted with phthisis. Separate coaches should be used. A communication was read from the Travelers' Protective Association objecting to the practice of allowing sufferers from phthisis to occupy space in sleeping cars and coaches with persons not afflicted. Consumptives, they suggested;

should be isolated so far as possible by the railroads, and not allowed in cars where they mix with other passengers. The evil is largely confined to trains going to Colorado, New Mexico, and Arizona, where the mild climate is sought, and all persons traveling thither from Eastern points are exposed. Recently a proposition was made to officers of one of the roads operating out of Chicago to establish a consumptive cure in the pine woods of northern Wisconsin. The officers of the road declined to encourage the project on the ground that the transportation of diseased persons to and from the camp would be objectionable to other passengers, and would tend to hurt the business.

This is unnecessary and brutal; the public must learn that with a little care there is no more danger from a consumptive than from a rheumatic case.

Lemke suggests the use of intrapleural injections of nitrogen in the treatment of phthisis, holding that after compression of the lungs fibroid changes develop; this cicatrization assists nature in healing the tubercle. Cavities if present are compressed and healing favored, and by the rest the organ receives a lessened tendency to hemorrhage is promoted. He states that pleural adhesions are not so extensive as might be expected, and he believes that after long compression the healthy portion of the lung will again expand when intrapleural pressure is removed. The risk from the operation is small, and his results have been excellent. This is one of those curious procedures that flit through medical literature that seem to have no definite lighting place, but are gathered finally in the books on curiosities in literature. Why we should squeeze healthy tissue and run the risk of hemorrhage by this procedure is a problem. Certainly it is not an especially logical undertaking. Another procedure suggested by Hodlmoser is the injection of cinnamic acid. Hodlmoser had only twenty per cent of cases improved as compared with the figures of Frankel, who reported ninety per cent improved. Here is another method of treatment ready for some future collector of curiosities. Mays advocates the injection of silver nitrate in the neck along the course of the pneumogastric nerve. He uses a 2½-per-cent solution in five-minim doses, the injections being repeated every seven or ten days. He has given as high as twenty-one injections. He finds that fifty per cent of his patients were well in eighteen months. Mays rather clouds his usefulness in phthisis by his eccentric views as to its origin and nature. No one else as far as I know has used his method, which is not particularly brilliant in its results.

Pulmonary gymnastics have been advocated, especially by Henry Hughes, of Bad Soden, who prescribes walking exercises to strengthen the muscles. He then gives the patient a course

of instructions designed to bring out the activity of the respiratory organs. He feels that not a little good of this treatment comes from the occupation of the mind of the patient. At Falkenstein, where the open-air treatment flourishes under the care of Dettweiler, the two propositions are: (1) A consumptive who cannot seek change of climate should pass his days in the open air, no matter what the stage of his disease; (2) under proper precautions this may be done in all weather, excepting the severe cold of winter where the thermometer registers below fifteen degrees Fahrenheit. Should there be abnormal sensitiveness to cold, it can be overcome by friction of the surface, movements of the body, and the use of additional clothing.

Personally I have great hopes in phthisis when the patient retains his appetite and digestion. The rapidity with which cases run down hill where appetite and digestion are gone and vomiting ensues is startling. So that in my estimation the problem of food is all-important. Milk and meat are the two articles of food which furnish the greatest amount of heat and power with the least expenditure of digestive energy. To produce good results these foods must be taken in sufficient quantities and through a long enough period to produce proper results. To modify their administration to the individual case is the task of the attending physician. So I will give my individual experience for what it is worth from studying a large number of cases in the Adirondacks. Milk should never be given in quantities to exceed eight ounces at a time, and then ten to fifteen minutes should be consumed in its ingestion. Where we intend patients to drink several quarts in twenty-four hours, lime-water must be added in the proportion of a tablespoonful to eight ounces of milk. An excellent way is to scald milk or even boil it, being careful to remove the "skim" which forms, which is the indigestible, constipating portion, and then add Seltzer water. This drink is refreshing at all times. Where patients cannot take milk kumiss or matzoon can be used, but I have found that practically every one can drink milk if these precautions are followed. Often it requires the nibbling of a salty cracker at the same time, which overcomes any sense of nausea.

Peptonized milk is excellent at times, only unfortunately it is apt to pall upon the taste after a time. It can be given hot or cold, but generally slightly warm.

When we come to the problem of meat, I have found it is better given rare, or in the form of squeezed beef juice, for which purpose a meat-squeezer is necessary. The best meat for this

purpose is a thick steak free from fat, seasoned with pepper and salt over a quick fire; then cut it into pieces two inches square and put in the squeezer. We should obtain about eight ounces of juice from a pound of meat. Do not attempt to heat it, except by placing the cup in hot water, for the albumen at once coagulates and the juice is valueless. It is more trouble to do this than preparing other forms of food, but it well repays the trouble in the improvement shown in the patient. Some authorities recommend scraped meat balls; here the pulp is scraped from a round steak, which leaves the fibrous matter behind. This scraped meat is rolled in balls and broiled over a quick fire. It differs from the so-called "Hamburg steak" in being only a portion of the meat without its fiber. There are many preparations on the market which can be used as substitutes from time to time or as additions, but after all the mainstays are milk and meat.

The problem of alcohol is an important one. It is capable of doing great good if judiciously used; again it may do positive harm. I had a patient in a camp in the Adirondacks who would improve to a certain point; then alcohol acted as a tremendous stimulant; he would overdo it, and as a result hemorrhage would ensue, and he would be thrown back where he started. He is not under any one's control, and he repeated this cycle several times in two years. Early in consumption alcohol is generally not needed, but in the second stage it should be given in small quantities with food, while it does the most good in the third stage. The digestive stages do not correspond with the physical stages at all. First comes the period during which the digestion and appetite are unaffected. Systematic dieting must be commenced at this stage by all means; it is a fatal mistake to neglect this procedure. Some will say, why limit the diet when the digestive powers are normal? But the idea is to carry the nutrition and the resisting power of the patient to the highest point, which cannot be done with the ordinary meals. Forced feeding is essential from the outset. This is a vital maxim in phthisis. Again, the rules of diet must be definitely laid down. Albuminoids and carbohydrates should form the basis of all meals. If the patient is middle-aged, he requires more meat—two pounds of beef at least. Soft-boiled eggs are excellent. To avoid monotony at this time easily digested vegetables may be given. Cod-liver oil should be taken after each meal, whether directly or later depends on personal idiosyncrasy. Some of the newer forms of oil can be tried if the pure oil causes indigestion. Phosphates are excellent, and hypophosphites are better.

When the patient reaches the period where gastric disturbance begins until the time comes when his stomach rejects all solid food, it is a test on the skill, patience, and judgment of his physician. Here the method of preparing food rather than an actual change is all-important. Still feed your patient six times a day, but restrict the meals. All food must be palatable and finely subdivided. Here beef juice and scraped beef are essential; but never take milk at the same time as the beef juice. Avoid cough mixtures as much as possible; they will upset the stomach almost inevitably. Care must be taken in giving cod-liver oil, but give it if you can, unless it seems to do more harm than good. Use the digested ferments as much as possible and treat your cases as if ordinary indigestion existed. The bowels should be watched and the varying symptoms treated as they arise. It is here that the individual skill of the attending physician is all-important.

When solid food can no longer be taken, then prolong life under the most comfortable circumstances possible. Often the distressing cough can be controlled by attention to the quality and quantity of food. Give up the idea of three regular meals and feed the patient every two hours. Here artificially digested preparations of beef are excellent, alternately with milk and lime-water. During the night if the patient is awake his stimulation and food must be kept up.

I close with a dietary which I have used frequently in early phthisis; it is excellent.

On Awakening.—Eight ounces of equal parts of hot milk and Seltzer, taken slowly through half an hour.

Breakfast.—Oatmeal or cracked wheat, with a little sugar and an abundance of cream, rare steak, or loin chops with fat; soft-boiled or poached egg, cream toast, half-pint of milk, small cup of coffee.

Lunch, 10 A.M.—Half pint of milk, or small teacupful of squeezed beef juice with stale bread. 12, noon: Rest or sleep.

Midday Meal, 12.30.—Fish, broiled or stewed chicken, scraped meat ball, stale bread and plenty of butter, baked apples and cream, two glasses of milk.

Lunch, 4 P.M.—Bottle of kumiss, raw scraped beef sandwich, or goblet of milk. 5.30 P.M.: Rest or sleep.

Dinner, 6 P. M.—Substantial meat or fish soup, rare roast beef or mutton, game, slice of stale bread, spinach, cauliflower, fresh vegetables in season (sparingly).

PARENCHYMATOUS KERATITIS, IRIDOCHOROIDAL FORM, WITH LOSS OF BOTH EYES.*

BY CHAS. H. BROBST, M.D., PEORIA, ILL.

My reason for presenting a paper on the subject of parenchymatous keratitis is that it is a disease which occurs quite frequently, and interests the physician who is engaged in general practice quite as much as the ophthalmologist, from the fact that many of these cases are first seen by the former.

Clinicians and writers on the subject of interstitial keratitis almost unanimously agree that this eye affliction invariably results in a cure, with the possible exception of a few small opaque spots remaining on the cornea; but unfortunately we can't all boast of such glowing results, as I may demonstrate later on.

Parenchymatous keratitis is also known as interstitial keratitis and deep diffused keratitis. It is a rather frequent disease, having as its prototype deep non-suppurative keratitis. I shall confine my remarks principally to one particular type of this disease, the iridochoroidal form, which has proved to be a great deal more dangerous to the impairment of sight and even destructive to the eye itself than one is led to believe through reading current literature on the subject.

Whatever the etiological factors in this disease may be, it is true that the greater majority of cases start out in a mild form —a grayish discoloration appears in the periphery or in some other part of the cornea. This change of color soon spreads over the entire corneal membrane, which is infiltrated, and its surface dulled throughout. At first the infiltration is translucent, like that seen in edema of the cornea; it then thickens and becomes of a grayish tint, which deepens until the iris is almost or quite obscured from view. Vision is greatly diminished, and may be reduced to mere perception of light. There is typical ciliary injection, usually without congestion of the conjunctiva; extreme congestion of the iris is always present, and finally develops into an iritis and iridocyclitis.

Some of these cases, before they come into the services of the ophthalmologist, have passed through these various stages of development until we have the iridochoroidal form, which usually results in greatly diminished vision or the loss of sight entirely, the result of exudative deposit on the posterior of the cornea.

*Read before the Illinois State Medical Society, May 16, 1905.

Very often, when the affection is of long standing, evident phenomena of cyclitis and choroiditis are observed. Chief among these may be mentioned the slaty shade of the sclerotic around the cornea, which is so characteristic of chronic cyclitis.

Sometimes the sclerotic is infiltrated quite as much as it is in scleritis. Subsequently ciliary or intercalary staphylomata may supervene, when, in consequence of posterior synechia, the eye has become glaucomatous. The corneal inflammation may be so hidden that the condition is spoken of as one of iridochoroiditis. Fortunately it is comparatively rare that this extreme type of interstitial keratitis comes under our observation, and when it does it is usually in cases which are somewhat neglected in the earlier stages of the disease—that is, if the disease has progressed for some time without the proper use of mydriatics and other therapeutic interventions fitting the case. However, these errors are usually brought about in failing to recognize the real type of the disease.

Michel in this connection distinguishes two forms of parenchymatous keratitis: in the one the disease commences with the corneal affection; in the other the corneal affection is absolutely secondary and consequent upon the uveal tract.

This latter type of the disease I have observed in six different cases; five of these cases proved to be very obstinate and protracted through the entire course of treatment, which averaged one and a half years for each case until all traces of inflammation had subsided, and with an average vision of 60%. A slight amount of corneal infiltration was noticeable in three cases four years after the inception of the disease.

The etiological factor which played such a rôle in these five cases of the iridochoroidal forms of parenchymatous keratitis was hereditary syphilis; this I have found to be the case in about 70 per cent of all the cases of interstitial keratitis that have come under my observation, or rather that I have kept record of in the last fifteen years.

Then next in frequency is scrofula, or a strumous condition, and this may be in a great many instances a hereditary taint from tubercular parents or a specific condition handed down for possibly two or three generations.

I shall take up the history and progress of one of the six cases of the iridochoroidal form of interstitial keratitis from the fact that its interest lies in the loss of both eyes of a young woman twenty years of age who came into my service September 12, 1903. I was informed by the patient that three years

previously her left eye had been removed after suffering with it for almost four years from a disease that had commenced exactly as her right eye was beginning now. There was some injection of the conjunctiva around the corneal margin, a slight dilatation of the pupil, tension normal, some photophobia, and a perfectly clear cornea. The patient also stated that the enucleated eye through the course of its disease was always very much influenced for the worst during the menstrual periods.

The patient was sent to the hospital, and in four days' time I noticed the first signs of an interstitial keratitis, being exactly two weeks after the period of inception of the disease. The cornea gradually became clouded as the iridochoroiditis developed, which was very slow in its progress but sure in its destructiveness. The history of this case never shed any light on any etiological factors that might play a rôle whereby one might be guided in his treatment, and with the disastrous results obtained in the left eye at the hands of most competent ophthalmologists the eventual results could be easily apprehended.

I concluded that the etiology resolved itself into three primary factors, namely, tuberculosis, rheumatism, or hereditary syphilis.

The pulse-rate averaged between 60 and 65 per minute, and temperature 98°. In giving the patient the tuberculin test she was placed in bed and the temperature taken in the rectum every three hours: at 7 A.M. it was 97.4°, and at 7 P.M. 98.2°.

Two tests were given forty-eight hours apart. After the first test the temperature rose to 98.6°, and after the second test the temperature was 98.8°, and with the absence of all other tubercular symptoms I formed the conclusion that I had to deal with either rheumatism or hereditary syphilis.

As we may notice the pulse-rate was very slow, 65 per minute, it being more frequent only on one occasion, when it was 72 per minute right subsequent to the first injection of tuberculin, and in fifteen hours it fell again to 65 beats.

After giving salicylate of soda a thorough trial in increased doses for six weeks until the patient was taking four grammes every four hours, with hypodermic injections of pilocarpine and hot packs to produce diaphoresis, I however noticed no improvement in the eye. Potassium iodide was then given in increased doses until the patient was taking six grammes three times a day without producing any beneficial effect on the disease or manifesting any evidence at all of taking the drug.

The local treatment throughout this time consisted of the application of leeches to the temple, hot and cold applications,

instillations of atropine, subconjunctival injections of salt solution, and solution of cyanide of mercury 1:1000 with cocaine added, but owing to the congested and inflamed state of the conjunctiva these injections were always very painful.

Cocaine seemed to have very little effect as a local anesthetic under these conditions. The cornea was not quite opaque, the pupil about one-half dilated, and some adhesions of the iris to the lens capsule, and there was a beginning exudative deposit in the anterior chamber.

The patient was under constant treatment and observation for ten weeks without the eye being in the least benefited. It was also evident that no benefit whatever had been derived from any therapeutic agent which had been administered per os.

The hypodermic method of administration was now adopted by injecting 0.006 to 1-10 grain of cyanide of mercury into the gluteal regions every twenty-four hours until ptyalism was established, which manifested itself after the fifth injection. This method of medication must have wrought metabolic changes in the economy which other remedies were incapable of, where the alimentary canal was called upon to perform its function in assimilating the drug. The result of this treatment was a steady improvement in the eye, pain diminished, congestion and inflammation subsided, and the cornea cleared up to the extent that the patient was able to find her way about the streets.

The injections of cyanide of mercury were kept up at longer or shorter intervals for over six months with reasonably good prospects of having stayed the progress of the disease, and during the period of eight months the approach of the menstrual period provoked no untoward symptoms in the eye, as had been the case before she received the mercury treatment.

The pulse-rate now was about 80 per minute and the temperature 98.6°, appetite good, and bowels regular.

In October, 1904, the patient awoke early one morning with a pain, some congestion, and about plus 1 tension in the eyeball, and steadily increased in tension with a corresponding augmentation of pain.

This secondary glaucoma was the sequence of a disease of the uveal tract which had manifested itself in an interstitial keratitis in the earlier stages of the disease, and was rather of an insidious type in the latter stages of its duration, which was over one year until glaucoma manifested itself.

I am also confident that it is a mistake to wait for surgical interference until it is indicated in this class of cases by mani-

festation of secondary glaucoma following iridic adhesions and exudative deposits.

If iridectomy is to accomplish anything it must be performed early in the disease before iridic adhesions have taken place, or before an advanced iridochoroiditis has a chance to develop.

On several occasions I have performed iridectomy in the very beginning of the iridochoroidal form of parenchymatous keratitis with excellent results.

In summing up this case we find several interesting features relating to it, which are subnormal temperature, from 1° to 1.5°, and very slow rate of pulse.

The therapeutic agents which were administered per mouth, such as salicylates, mercury, and potassium iodide, bore no influence on the disease whatever. Subconjunctival injections of mercury and salt solutions had no beneficial effect on the eye until after the constitutional results of mercury had been attained by deep hypodermic injections.

The notable features of this case were (1) a sudden development of a secondary glaucoma after the eye had been doing well for six months; (2) the destruction of both eyes four years apart in a similar way. While the history and all other symptoms were negative, this was undoubtedly a case of hereditary syphilis.

SURGICAL TREATMENT OF TUBERCULAR SPONDYLITIS.*

BY A. E. HALSTEAD, M.D., CHICAGO,

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The surgical treatment of Pott's disease comprehends (1) the removal of the tubercular focus in the bone; (2) the treatment by incision or by puncture of the abscesses that are secondary to the bone disease; and (3) the operative treatment by laminectomy of the most serious of all of the complications of this disease, namely, the paraplegia resulting from pressure upon the spinal cord.

As is well known, the tubercular focus is in the vast majority of cases located in the bodies of the vertebræ, and only rarely in the arches, and is consequently difficult to reach. For this reason, excepting in cases where distinct indications exist, surgeons are not disposed to attempt the early eradication of the diseased bone in tuberculosis of the vertebræ. It is only when

*Read before a joint meeting of the Chicago Medical and Chicago Orthopedic Societies, March 30, 1904

an abscess is to be drained, or when extensive sinus formation is present, that attempts have been made in the past to remove the primary focus in the bone. Undoubtedly the ideal treatment of this condition would be the early removal of the tuberculous bone, as is practiced in other parts of the body, were it not for the great danger incident to exposing the bodies of the vertebræ. In the few cases in which we have reason to suppose that the disease is limited to the arches, or when the soft tissues have been pushed aside by the pressure of an abscess, thus lessening the difficulty encountered in exposing the bodies of the vertebræ, we are justified in attempting the complete eradication of the diseased tissue. The treatment of tubercular abscess in spinal caries by the orthopedist is, generally speaking, more conservative than that of the general surgeon. The latter in cases when it seems possible to reach the primary focus in the bone does not hesitate to freely incise the abscess and remove all of the infected tissue.

As a rule, the treatment of these abscesses by incision does not yield good results because of the inaccessibility of the underlying bone disease. In the cases where there is no hope of following the abscess to its source in the bone, incision should, if possible, be avoided. In this class of cases aspiration of the contents of the abscess cavity, followed by washing out of the cavity and the subsequent injection of iodoform, should be practiced. In many cases, where proper orthopedic treatment is carried out, this will prevent the refilling of the cavity. It appears to us useless to suppose that these abscesses will disappear spontaneously, as we know that such a favorable termination is not looked for in other regions of the body. Small collections of pus may become encapsulated and remain latent, but are always a source of danger to the patient.

To summarize, we would say that in case of small abscess, so located as to lead us to believe that the primary bone focus can be reached without great difficulty, we should incise the abscess and eradicate the diseased tissue. This offers the best hope for speedy and permanent cure. When the abscess is large, or when it appears some distance from the diseased vertebra, as in psoas abscess, puncture and injection of iodoform emulsion should always be practiced to prevent rupture and consequent mixed infection, which is almost sure to occur.

Concerning the value of the operative treatment of paralysis due to spinal caries, there is still a great divergence of opinion. Many hold that by orthopedic treatment alone, or by forcible straightening, followed by prolonged extension, the best results

are attained. No doubt those advocating this method of treatment are supported by the statistics that have been published by many surgeons in the past. Meyer found that in 218 cases treated by extension alone 55 per cent recovered completely. Taylor and Lovett report 17 recoveries out of 19 cases, and Sayre 34 out of 38 treated by extension. On the other hand, the statistics from European clinics show that unsatisfactory results are quite common. Thus, Reinert reports 33 cases from the Tübingen Clinic, of which 23 were treated by extension alone, with a mortality of 60 per cent; 10 cases were treated by laminectomy, with 54 per cent recoveries; and 3, or 26 per cent, were improved. In the Leipsic Clinic, between the years 1882 and 1889, the mortality in the cases treated by extension was 82 per cent. In none was there complete recovery.

The post-mortem findings in cases dying from paralysis occurring in Pott's disease present the strongest argument in favor of laminectomy. It has been fully demonstrated that the paralysis is practically never due to an inflammation of the cord, and that the so-called myelitis is not a myelitis, but a pressure atrophy of slow development. Schmaus and others have shown by a careful study of the post-mortem records that it is only in about two per cent of the cases that the pressure exerted upon the cord is the result of angularity of the vertebral column. In practically all (32 out of 33 cases reviewed by Schmaus) the pressure was due to the tuberculous process breaking into the spinal canal, the immediate cause being either a tuberculous peripachymeningitis or a tuberculous abscess within the canal. In cases where the pressure results from a peripachymeningitis, particularly when a considerable portion of the membrane is involved, the prognosis after laminectomy is not good. When we have reason to believe that the paralysis is the result of pressure from an abscess or from a mass of tuberculous granulation tissue, an operation is imperative.

Our experience in the operative treatment of paraplegia due to spinal caries has been limited to two cases.

The first was a patient treated in the Cook County Hospital in 1900. In this case there was a distinct angularity in the lower dorsal region of six months' standing. The patient, male, aged forty-one, was admitted suffering from a complete paraplegia of eight weeks' duration. The bladder and rectum were not completely paralyzed. Extension was employed for four weeks, without success. Laminectomy was advised and accepted. The arches of the ninth, tenth, and eleventh dorsal vertebræ were

removed by means of McEwen's forceps, and the dura exposed; a quantity of pus and tuberculous detritus was removed, and a focus in the lateral aspect of the body of the tenth dorsal was scraped out. The wound was packed, and over the ordinary antiseptic dressing a plaster-of-Paris cast was applied while extension was made.

No improvement was noted until after the third week following the operation. After this there was a gradual improvement, first in the bladder and rectal symptoms, and then in motion and sensation. At the end of three months he was able to leave his bed, and two months later, five months after the operation, left the hospital.

The second case, operated upon in 1902, was that of a girl of twelve, having a lower dorsal tuberculosis of six months' duration. Paralysis, at first spastic in character, began six weeks before she entered the Policlinic Hospital. At the time of admission there was complete motor paralysis of both lower extremities without complete anesthesia. Both bladder and rectum were involved. There was but slight kyphosis, with the most prominent point corresponding to the lowest dorsal vertebra. Laminectomy, with the removal of the arches of the lower two dorsal vertebræ, revealed a thickened dura with considerable granulation tissue extending beyond the opening in the canal. As the patient did not bear the operation well, it was not considered advisable to make the resection more extensive. The wound was dressed in the usual manner, and a cast applied. No improvement in the paralysis resulted. The patient's general condition steadily grew worse, and death resulted four weeks after the operation.

At the autopsy an extensive tuberculous disease of the bodies of the lower four dorsal vertebræ, with a marked thickening of the dura, was found. In addition there was an abscess of considerable size corresponding to the diseased vertebræ, with disseminated tuberculous patches in the lung and a tubercular empyema on the right side.

In closing it may be said that laminectomy is absolutely contraindicated in cases where there is tuberculosis of any other organ. In the last case the lung and pleural tuberculosis probably existed before the operation, although its presence was not recognized. The duration of the paralysis offers no contraindication to the operation, as it is not so much the length of time that the cord has been subjected to pressure as the way in which the pressure is exerted that affects the integrity of the cord and determines possibility of recovery.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE HYGIENE OF CHURCHES.

The proverbial kinship of cleanliness and godliness is not preëminently manifested in ecclesiastical affairs, according to a distinguished Canadian sanitary critic, who has communicated to his ecclesiastical superiors some of his conceptions of the niceties and refinements of hygiene, in order that the church's rites and ceremonies may be brought as far as possible to comply with their requirements.

Some of the points mentioned by this critic appear well taken. He complains of the air in churches, which is often scarcely respirable. The lower levels are much denser than the upper ones and contain a high proportion of carbon dioxide mixed with cutaneous emanations, the products of wax candle combustion, and dust of all kinds. This is considered to be a cause in many instances of the death of desirable acquaintances, and explains the Monday headaches which are so often complained of in England. A little ventilation would of course obviate all this. The stained-glass windows, which are so desirable from an artistic standpoint, do not as a rule permit the passage of vivifying and purifying light rays. The heating problem is a difficult one. In country churches the floors are apt to be cold, and those who are not seated in proximity to the heating apparatus are apt to have cold and benumbed feet, which inevitably tend to draw toward the earth the noblest flight of the soul. A curious fact, says this writer, is that those who neglect to disinfect the dejections and urines of typhoid patients during their life, are nevertheless opposed to the entry of the bodies of those who have died of typhoid into the church. These people, too, are always ready to defend the presence in the church of tubercular patients who cough and expectorate and give free vent

to millions of bacilli. Then, also, what is to be said of the holy water which has come in contact with epidermis of the most varied kinds, with nails that wear deep mourning, with the fingers of the tuberculous which have twirled contaminated mustaches. Certainly the most exalted soul would not care to drink holy water. The confessionals are constructed in a fashion to make the priest a veritable martyr, and may explain why the life of a priest is so much shorter than that of a physician. The statues of the saints whose toes are kissed are sources of infection, and closer observation will reveal in many rites and ceremonies noteworthy hygienic transgressions.

What shall be done to obviate these defects? Enlighten the public, and the matter may be left to take care of itself.

EDITORIAL NOTES.

The Pennsylvania Osteopathy Bill Vetoed.

The governor of Pennsylvania, whom we have heard severely criticized on numerous occasions, showed himself to be right at least on problems that involve the medical profession by vetoing the bill which recently passed the State legislature legalizing osteopathy. The osteopaths succeeded in putting through a bill licensing those who desired to engage in the practice of this art and establishing a State Osteopathic Association, before whom all candidates should appear before they could legally engage in the practice of osteopathy. The governor in vetoing the bill said that it contained nothing to indicate what osteopathy was. He said approval of the bill would appear to give the authority of the State to a system of practice in the healing art which excluded the use of medicine and surgery. Governor Pennypacker has established a valuable precedent in his decision, and we can only hope that it will be brought to the attention of other governors when they are called upon to sign similar bills.

Jiu-Jitsu.

The war in the East has brought many of the characteristics of the Japanese to the fore. One trait of the Japs of which a great deal has appeared in the lay papers and magazines is their system of wrestling, called jiu-jitsu. This appears to be a system of trick wrestling which for years was taught only to the ruling

classes. Its devotees are presumed to have a good knowledge of anatomy, so that they may seize an opponent in such a way as to cause great pain. As far as can be learned from articles that have been published in this country on the art of jiu-jitsu, its tricks do not embrace any that are not known to American wrestlers, and which are always barred in wrestling matches as foul. The attempt to introduce it in this country can only result in a wholesale breaking of bones, sprained and seriously damaged joints.

A Problem in Medical Etiquette.

In Hungary it is the custom when a student has successfully passed his examinations for the degree of M.D. to have it conferred *sub auspiciis regis* and to receive from the hand of the Emperor a ring with the initials "F. J." A short time ago a young doctor who was serving his time in the army as a "one-year volunteer" was invited to present himself before the Emperor. The candidate was at a loss to know whether he should appear as a soldier or as a doctor. He sought the advice of his colonel, who after carefully pondering over the subject gave the following opinion: "If the Emperor speaks to you in German, which is the regulation language of the army, you must regard yourself as a plain one-year volunteer, and you will therefore keep your shako on your head. But should His Imperial Majesty address you in Hungarian, this means that he sees in you a doctor of medicine rather than a soldier, and you must therefore uncover your head." It seems too bad that a mind for the untying of legal knots such as this colonel possessed should be wasted on the profession of arms.

The Army Canteen Question to be Settled.

The discussion about the army canteen has been going on ever since it was abolished a few years ago. Arguments for and against it have been heard until the subject has become nearly threadbare. We learn from the *Army and Navy Register* that a circular has been sent out to army officers calling for unbiased and colorless statements of facts in relation to the post exchange. We trust that the decision of these officers will forever settle the question, for they certainly are the ones who ought to know whether the abolishment of the canteen was a proper step or not.

ITEMS AND NOTES.

THERE have been 1202 deaths from cerebrospinal meningitis in New York since January 1, 1905.

AT the annual meeting of the American Therapeutical Society in Philadelphia Dr. Carl Beck was elected president.

SIR RICHARD DOUGLAS POWELL, M.D., has just been elected president of the British Royal College of Physicians.

LORD LISTER, famous in the earliest days of antiseptic surgery, has just celebrated his seventy-eighth birthday.

DR. LEWIS ADLER, JR., of Philadelphia, was elected president of the Proctological Society of America at its meeting held in Pittsburg.

A LOTTERY to encourage vaccination has been established in Madrid. The mayor presents a ticket to each person who submits to this dreadful operation.

AMONG the members of the medical profession in foreign countries who have recently died is Professor Glaevecke, director of the Obstetrical Section of the Auschar Hospital, Kiel, aged forty-nine.

ANALYTICAL tests made by the chemists of the Boston Board of Health and of the State Board have revealed the presence of salicylic acid in certain canned baked beans, sulphuric acid in Hamburg steak, and boric acid in butter, offered in the public markets of Boston.

THE Vienna papers announce that the suit pending since last August brought by Dr. Gans, of Carlsbad, against Rudolph Spreckels for fees in connection with services rendered when Mr. Spreckels was suffering from appendicitis, has been decided in favor of Dr. Gans.

APRIL 21 the first spadeful of earth in the excavation for the new Michael Reese Hospital of Chicago was turned by Isaac Greensfelder, who it is said performed the same office when the original building was begun a quarter of a century ago. The new hospital will cost $475,000.

THE *Journal of Tropical Medicine* states that the cultivation of rubber is being taken up seriously in Ceylon. During October about 60,000 trees of the Para and Castilloa varieties were planted in the island.

THE British government is sending a scientific expedition to India to investigate the origin and cause of plague. They have entrusted the direction and arrangements to the Royal Society and the Lister Institute.

THE Jacksonian prize for 1904 has been awarded to Mr. H. J. Patterson, of London, for his essay on "The Diagnosis and Treatment of Such Affections of the Stomach as are Amenable to Direct Surgical Interference."

GOVERNOR PENNYPACKER of Pennsylvania has signed the bill passed by the legislature at its recent session abolishing the State Board of Health and establishing in its stead a Department of Health, whose head shall be clothed with almost unlimited authority in safeguarding sanitary conditions in the State.

THE prohibitionists of Maine are, according to the *Medical Record*, passing through one of their periodical endeavors to reform both the spirit and the letter of the liquor law of that State. They recently made a raid on the grocery store of a firm headed by the governor, and seized a large quantity of a popular and much advertised patent medicine, the claim being made that it contained an illegal amount of alcohol. A clean sweep will now be made of this and other proprietary medicines, alcoholically charged, throughout the drug and grocery stores of the State.

THE New York Post-Graduate Medical School has just inaugurated a separate and distinct department to be known as a school of anatomy. This most important branch of medical science will henceforth be handled elaborately and with detail in all its branches. The managers of the Post-Graduate School have long believed that insufficient attention is generally given to anatomy, and have awaited the psychological hour for this new departure. A separate building has been secured for the work adjoining the established school and hospital buildings. Dr. Neil MacPhatter, the former adjunct professor of surgery, has been placed in full charge.

THE International Association for the Protection of Working People offers a dozen prizes for the best works on the prevention of lead poisoning. The first prize is $1250, to be given for the

best work on the means to prevent lead poisoning in handling ores containing lead. The second prize is $2500, for the best work on means to avoid the dangers from lead in lead mines. Two prizes of about $500 each are offered for works on means to avoid the danger of lead poisoning in paint factories, storage battery works, etc.; also four prizes of from $187 to $375 for the best works on the same subject applied to painters, varnishers, etc.; and four similar prizes for works in regard to printers, type-founders, etc. Competing articles should be sent to the "Secretariat der internationalen Vereiningung für Arbeiterschutz," at Basle, Switzerland, before December, 1906. Further information on request at this address.—*Journal of the American Medical Association.*

About 500 physicians from the Eastern States and Canada dined at the Waldorf-Astoria Hotel in New York City on May 2 to do honor to Dr. Osler before his departure for England. The toastmaster was James Tyson, of Philadelphia, and the list of speakers and the toasts to which they responded was: Osler in Montreal, "Student and Teacher," F. J. Shepherd, of Montreal; Osler in Philadelphia, "Teacher and Clinician," J. C. Wilson, of Philadelphia; Osler in Baltimore, "Teacher and Consultant," W. H. Welch, of Baltimore; Osler, "The Author and Physician," A. Jacobi, of New York City; presentation of Cicero's "De Senectute," by S. Weir Mitchell, of Philadelphia. In presenting a beautifully bound copy of James Long's translation of De Senectute in the edition printed by Benjamin Franklin at Philadelphia in 1744 Mitchell said: "What humorist selected the gift I don't know, nor do I know what sarcastic genius singled me out to present it. But I suppose my own fitness depended on the fact that I am the youngest man here to-night, and thus best suited to bring the homage of youth to our venerable friend." Osler replied fittingly, and expounded again his three ideals or rules of conduct: to do the day's work well and not to think of to-morrow, to follow the golden rule, and to cultivate a certain measure of equanimity.

The second annual meeting of the American Society of Tropical Medicine was held at Philadelphia on March 24. The following resolution intended to be sent to the proper authorities was adopted: "The American Society of Tropical Medicine, at the suggestion of Sir Patrick Manson, of London, one of its honorary members, begs to call your attention to the fact that the investigations of the past decade have so increased our knowledge of malaria, yellow fever, hookworm disease, and

other tropical diseases as to make their prevention quite possible by the exercise of comparatively simple measures, and begs to recommend as a means toward the diminution and extinction of these maladies that a certain amount of information regarding them be included in the curriculum of the public schools in our tropical colonial possessions." The papers mostly dealt with the health conditions of Panama. Dr. Seneca Egbert related the history of the Republic of Panama and of the canal; Dr. Joseph McFarland presented a communication on the canal zone; and Dr. Roland G. Curtin discussed the medical conditions of the Isthmus of Panama. The following officers were elected for the ensuing year: President, Dr. Roland G. Curtin, of Philadelphia; vice-presidents, Dr. Victor C. Vaughan, of Ann Arbor, and Dr. William S. Thayer, of Baltimore; treasurer, Dr. Wharton Sinkler, of Philadelphia; secretary, Dr. Joseph McFarland, of Philadelphia. The next annual meeting will be held in March, 1906.

Prof. O. Vulpius, the well known orthopedist of Heidelberg, recently operated, says an exchange, on a young man whose right knee was ankylosed at an acute angle. There was also a tumor on the inside of the leg above the knee. Vulpius told him, it is said, that the knee could be straightened by a simple and harmless operation, and that he could return home in eight to ten days. Vulpius severed the flexor tendons behind the knee and divided the femur above, and placed the leg in a padded plaster cast in extension. The tumor was not removed, and no hole was left for it in the cast, but the toes projected from the cast. In the course of twenty-four hours they became discolored, with loss of sensibility, as Vulpius determined himself by pricking with a needle. He made no change in the dressings and left town, leaving the further care of the case to his assistant. The leg became more and more painful, and by the twelfth day the toes were blue and swollen with fever. The assistant finally yielded to the patient's entreaties and removed the cast. The foot and leg were found gangrenous, and on the twenty-eighth day Vulpius—who had returned in the meanwhile—amputated the leg. The patient left the clinic after a three months' stay and instituted proceedings against Vulpius. He demanded that Vulpius should provide him with an artificial leg and pay him a yearly pension of $125, in quarterly instalments, and also a cash indemnity of $3000. The local court decided in favor of the plaintiff, and appeal to the Supreme Court resulted in a confirmation of the verdict.

NEW PUBLICATIONS.

SURGICAL DIAGNOSIS.

This is a manual the purpose and usefulness of which will commend it to the general practitioner. Its author's object has been to describe as exactly as possible the symptoms peculiar to a disease on which a diagnosis can be based, and wherever feasible to show how to observe these symptoms—in fact it is the purpose of the author to assist the practitioner in deciding the difficult question whether or not a disease needs surgical interference, and if it does, the measures that may with propriety be employed. The book is conceived in the careful spirit of the German, and the author confesses to having followed the example of his illustrious teacher, Von Bergmann, in the arrangement of his work. The handbook is one which may with all propriety be recommended as an invaluable addition to the library of the practitioner. It is excellently presented by its publishers, and its illustrative features are original and novel.

Surgical Diagnosis. A Manual for Practitioners of Medicine and Surgery. By Otto G. T. Kiliani, M.D., Surgeon to the German Hospital, New York. Illustrated by fifty-nine full-page plates and engravings. William Wood & Co., New York.

A TEXT-BOOK OF OBSTETRICS.

A new text-book on obstetrics is an event which the progress of medical and surgical art makes from time to time a necessity. Dr. Wright's new manual will be found to include all recent teachings and reflects the influence of collateral discovery in allied departments of medicine. As a manual for students it will be found all that such a work should be, sound in doctrine, certain in practice, and not the less acceptable for its pragmatic statements on essential facts and factors in obstetrical science. The book is one which will acquire a well merited popularity.

A Text-book of Obstetrics. By Adam H. Wright, Professor of Obstetrics, University of Toronto. D. Appleton & Co., New York.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Nephropexy Pro and Con.

A. E. Gallant (*New York Medical Journal*, April 29, 1905) says that nephropexy is justifiable on a displaced kidney after operation thereon, involving it or its pelvis or ureter, or to relieve hydronephrosis or hematuria from a non-replaceable kidney.

Hepatopexy, splenectomy, gastroplication, gastrojejunostomy, and suture of the recti may be occasionally indicated.

The main obstacle to nephropexy in women lies in the greater obliquity of the lower ribs, which prevents suturing the kidney high enough to avoid harmful compression by the ordinary corset and waistbands.

Nephropexy is unjustifiable when, in order to place the sutures, it is necessary to drag the kidney farther down.

Nephropexy may relieve the symptoms due to kidney mobility, but in order to overcome those caused by the general ptoses it has been necessary to adopt a new principle, viz.: (*a*) gravity replacement by the semiopisthotonos posture; (*b*) support of the misplaced viscera by a corset made to order from measurements taken while the woman is lying down, laced with two strings, inserted from above down, put on while in the inclined dorsal posture, and fastened in front from below upward. By this method the viscera cannot prolapse while the corset is worn, and with this support nephropexy for replaceable kidney *per se* is but rarely indicated, multiple operations can be avoided, and the patient be placed under curable conditions.

Surgical Intervention in Cases of General Peritonitis from Typhoid Fever and Active Gonococcus Infection.

Joseph Price (*American Medicine*, May 13, 1905) states that typhoid and other perforations are always followed by peritonitis, local or general. The possibility of its remaining local or circumscribed by adhesions should not be considered if the diagnosis of perforation has been made. The characteristic symptoms of typhoid perforation are sharp, sudden abdominal pains, collapse,

nausea and vomiting in a good percentage of the cases, falling temperature early, followed by a rise in temperature. Perforation and hemorrhage are the two accidents in such a case that are commonly anticipated. In more than 75 per cent of the cases recorded general septic peritonitis has been found, with escaping bowel contents, gas and feces, foul pus, and free exudate in considerable quantity. The perforations are quickly and easily found near the ileocæcal valve, rarely multiple or ragged. Whether of large or small caliber, fine pure silk is the safest material; the lumen of the bowel can be safely reduced to one-half. The interrupted suture gives the best results and less risk of strangulation. If the margins of the ulcer are ragged they should be trimmed. A resection is an unjustifiable and dangerous procedure; simply anchor the ragged ulcer and disorganized bowel with catgut sutures on the opening between drains, forming an artificial anus or fecal fistula, which is a much safer procedure and is commonly followed by spontaneous closure. If this result does not follow, the fistula can be easily remedied after convalescence. The irrigation or wash toilet, so long practiced, has unquestionably given the best results. It should be a thorough cleansing with sterilized water of the entire surface of both the visceral and parietal peritoneum. Dr. Price believes irrigation with hot normal salt solution is harmful. Curetting or wiping dirty points with gauze is followed by good results. The gauze pack, so commonly and recklessly used, is a dangerous procedure, favoring too many acute and chronic obstructions by pressure. Unless the operator understands how to place gauze drains or cofferdams in and about filthy surfaces he would better fill the peritoneal cavity with hot salt solution and close.

Biliary Drainage in Operations on Gall-bladder and Biliary Ducts.

Eugene A. Smith (*American Medicine,* April 29, 1905) says, judging by his experience of forty cases, in 90 per cent of such operations biliary drainage after operations upon the gall-bladder and biliary tract is wise. We must consider such disease as due to infection, and the continuation of the infection with exacerbations and periods of quiescence, and with gall-stones as an accompanying factor and a result of the infection. We must diagnose cholecystitis and cholangitis and cholelithiasis. Early biliary drainage for cholecystitis and cholangitis is urged to prevent alter-

ation of structure in the biliary tract and dangerous complications due to local peritonitis and adhesions, with consequent disturbances of near-by viscera of associated digestive function, especially the pancreas. Biliary drainage in the majority of cases is better carried out by cholecystostomy, which is easier and safer than cholecystectomy. The latter is indicated for stricture of the cystic duct, in cases with thickened, distorted, perforated, or gangrenous gall-bladder, and when malignancy is suspected or found. Cholecystectomy should be accompanied by drainage of the cystic duct below the point of removal of the gall-bladder. Patients suffering from the toxemia of cholemia long continued should be offered exploratory operation and biliary drainage by cholecystostomy or cholecystenterostomy. Obstruction of the common duct by stricture and chronic pancreatitis may be thus treated with good hope of cure by this procedure, and in malignancy life is prolonged with comfort. The author describes at some length the technique of his operative work.

Foreign Bodies in the Bladder.

At a recent meeting of the Paris Surgical Society M. Barnsby (*Lancet,* April 1, 1905) contributed an account of two cases of foreign bodies in the bladders of young girls. In the first of these the patient had for some unexplained reason introduced a small Dumontpallier pessary into her urethra. It became encrusted with calcareous salts, and was extracted by a hypogastric incision; recovery was uneventful. In the second case a hairpin had been introduced into the urethra, and one of its points had pierced the wall of the bladder and caused phlegmonous inflammation of the cavity of Retzius (the preperitoneal cavity). The remainder of the hairpin served as the core of a large calculus, which was in some degree fitted to the bladder (enchatonne), but could not be extracted until it was broken up by Liston's forceps. The patient made a rapid recovery.

Sterile Water Anesthesia.

F. W. Stevens (*Journal of the American Medical Association,* April 29, 1905) has employed Gant's technique with sterile water for the production of local anesthesia in a number of operations for hemorrhoids, in other minor surgical procedures, and in one exploratory laparotomy, with the best results. In the latter case, as haste was required, the operation was finished under ether.

By this method he anesthetizes the skin over the line of incision by repeated small injections, followed by deeper ones for the underlying tissue. The advantages he claims for the method are rapidity of effective local anesthesia; absence of need of elaborate preparations; absence of toxic effects—nausea, vomiting, or straining; no fear from lung, kidney, or heart complications; no after-pain; and its value in emergencies in which other methods are not available. Operations for hemorrhoids can be performed in the office or at the patient's home, and need not cause loss of time or interruption of business. He recommends that the method be given a thorough trial, and thinks that when it has become more familiar its advantages will be apparent and its employment general.

MEDICINE.

Some Remarks on Physical Diagnosis—(1) Transmanual Auscultation; (2) Ulnar Palpation.

David Reisman (*American Medicine,* April 22, 1905) says transmanual auscultation consists in auscultating through the hand placed over the heart, and can be used satisfactorily only with one of the newer binaural stethoscopes. Heart sounds and heart murmurs can be heard with surprising distinctness through the hand placed on the precordia. The method greatly facilitates the timing of a murmur, inasmuch as the palpation and the auscultation are done at the same time and place. It is not only possible to auscultate directly through the fingers and hand, but almost equally good results can be obtained by placing the finger, flexed at a right angle, on the apex beat, and then resting the stethoscope lightly on the finger. The principal advantage of transmanual auscultation will be found in differentiating presystolic from systolic murmurs. It is also of value in timing peculiar murmurs heard over the entire precordia, or perhaps the entire chest. Ulnar palpation is done with the ulnar side of the hand, and confines the examination to the individual interspaces. The ulnar side of the hand is laid in each interspace successively, while the patient counts "one, one, one," "one, two, three," or "ninety-nine," according to the individual preference. The ulnar surface of either the hand or the little finger must be firmly placed in the interspace, the hand being held almost at right angles with the patient's chest. It is best to stand a little to one side of the patient and use the same hand for both sides of the

chest. This method gives accurate information and enables one to discover small shades of difference in the fremitus of contiguous interspaces and of corresponding areas on the two sides. It is of most value in the diagnosis of effusions, especially in determining the upper level of the exudate. It is practiced most successfully on the front of the chest. On the back, by reason of the difficulty in locating the interspaces, it is not so satisfactory, but it may be employed even there.

This method is not offered as a substitute for the one now in vogue, but as an addition to it. Both should always be employed.

Smokeless Powders.

C. F. Kieffer (*Journal of the American Medical Association,* April 29, 1905) reports an investigation on the pathologic effects of the fumes of the high explosives now so generally in use. A number of different powders were tested regarding the gases given out and the effects on the human system. The latter series was carried out in a room. Dr. Kieffer experimented on himself and on several members of the hospital corps by exploding a carefully measured quantity of the powder in a sealed room containing about twelve hundred feet of air space and observing the effects. The chief symptom was the well known "dynamite headache," and the fumes seemed to have marked effects on the nervous system. In some cases there was incoördination and diminution of hearing and of vision. Low temperature seemed to aggravate the conditions, and at least one person was found who appeared to be immune. In most cases a certain amount of tolerance is gradually established.

Kieffer also mentions a patient seen in Da Costa's clinic who could take six hundred and fifty drops of spiritus glonoini without serious effects. According to his findings the gases to which the effects are attributable are carbonic oxide and nitrogen peroxide, especially the latter, though the symptoms are due to the combinations of both. To meet the nitrite poisoning endeavor should be made to restore the vasomotor tonus, and strychnine is indicated in full doses. The carbonic oxide will be eliminated rapidly in moderate cases, but in severe intoxications oxygen inhalations and artificial respirations may be required. For the headache, coal-tar anodynes are not only useless but dangerous. The best remedies are strong coffee and a linseed poultice to the nape, as advised by Key. The danger from these fumes is a real one, as numerous fatal cases testify.

A Study of Homogenized Cultures of Tubercle Bacilli.

R. C. Rosenberger (*American Medicine,* April 22, 1905) found in homogeneous cultures of the human tubercle bacillus the morphology and microchemic reactions but little different from growths upon blood serum or upon glycerin-agar. In cultures three months old the individual elements were very long, 10 to 12 microns being an average size. Some were thin, others were thick; some stained darkly, the remainder stained very faintly. A number contained small, deeply stained granules which slightly exceeded the diameter of the organism itself. As many as eight of these granules were observed in a single element. This filamentous character was quite constant, the threads resembling closely those seen in streptothrices. Rosenberger was unable to demonstrate motility in any of the cultures examined, even in cultures only four or five days old. Brownian movement was evident in nearly all preparations. Five cubic centimeters of the homogenized bouillon culture inoculated into the peritoneal cavity of a guinea-pig produced caseous nodules ranging in size from 5 millimeters to 2 centimeters. Spreads made from these lesions contained numerous beaded, long, acid-fast bacilli.

Diet in Typhoid Fever.

T. B. Nichols (*American Medicine,* May 6, 1905) advocates a more liberal and varied diet in typhoid fever than is now customary. He is opposed to the exclusive liquid diet so called, arguing that liquid foods are not necessarily more digestible or less irritating to the bowel than are solid foods. He believes the consistence and condition of the food in the intestine is a criterion of more importance than the fluidity or solidity of the food before ingestion. Nichols gives the published results obtained from mixed and liberal feeding in typhoid fever, covering a total of 1000 cases with 77 deaths. This low mortality of 7.7 per cent does not bear out the common apprehensions as to the dangers of departure from milk diet. Complications were not increased by the free diet. The patients were markedly more comfortable and contented, their strength appeared better maintained, convalescence was materially shortened, and from the improved resistant power the mortality-rates appeared appreciably lowered, comparative statistics showing an improvement in the death-rate of from two to four per cent.

Comparative Studies of Digestion Leucocytosis in the Infant.

Ernst Moro (*Archives of Pediatrics*, April, 1905) has made a systematic study of digestion leucocytosis in healthy infants. The numerical variation of the leucocytosis in healthy breast-fed children was first studied, and later the writer endeavored to discover whether special variations occurred as a result of artificial feeding. The technique employed was uniform throughout.

As a result of the counts made the writer considers that the leucopenia which occurs in the breast-fed infant shortly after nursing is a physiologic process. In infants who had been artificially fed for a considerable time the variation in the number of leucocytes proved to be so great that no rule could be formulated in these cases.

Congenital Pulmonary Stenosis.

G. Arnheim (*Berliner klin. Wochenschrift,* xlii, No. 8) states that the diagnosis of non-closure of the ductus arteriosus is very uncertain. He describes the findings in a case of congenital pulmonary stenosis, and cites those in nine other cases. The cyanosis was not constantly present in the ten cases of pulmonary stenosis. In one case the pulse on the left was the weaker, whilst in another this condition was present on the right side; otherwise it was even and regular. The murmur was not always systolic. In the one case with a patent ductus arteriosus the murmur was presystolic, diastolic, and heard loudest in the third left interspace. The pulmonary sound was markedly accentuated, but was not heard behind.

Cholecystitis.

Howard Lilienthal (*American Medicine,* April 22, 1905) says cholecystitis represents nature's effort to rid the gall-bladder of infection. The disease may be caused by extension from the intestine, and also by infection through the blood current. A true cholecystitis once having existed, a return to normal conditions does not occur, though conditions which are tolerable may be brought about. Colic and jaundice may be due to anything which obstructs the flow of bile beyond the cystic duct, and may not be accompanied by cholecystitis. Cholecystectomy is usually

the operation of choice and is not more dangerous than appendicectomy in analogous cases. When icterus is present or has recently existed the operation should not be considered complete without full exploration of the hepatic and common ducts.

Fever in Syphilitic Hepatitis.

Klemperer (*Deutsche med. Wochenschrift,* No. 9) reports two cases of syphilitic hepatitis accompanied by fever of such a height as to demand treatment. He believes that there are cases of syphilis of the liver, lungs, and other organs, the cardinal symptoms of which are continued hectic fever. He therefore advises that in all febrile cases of uncertain etiology the possibility of syphilis should be borne in mind.

THERAPEUTICS.

The Present Limitations of Serum Therapy in the Treatment of the Infectious Diseases.

H. W. Berg (*Medical Record,* May 6, 1905) reviews the principles underlying the production of antitoxic and antibacterial sera and their therapeutic application. The bacteria concerned in the production of the specific infectious diseases fall into three classes: First, those which, like the bacilli of diphtheria and of tetanus, produce a virulent real toxin which is set free in the culture media. Second, those bacteria which secrete but little or no free toxin, but do contain a powerful endotoxin which is partly liberated only on the death and disorganization of the bacterial cells; good examples of this class are the pneumococcus, typhoid bacillus, the streptococci, etc. Third, those bacteria that produce no free toxins nor have in the bacterial cells endotoxins of any power, but in which the cell plasma contains other poisons in addition to the protein poisons common to all bacterial cells. The most important member of this group is the tubercle bacillus. Against the first group the antitoxic sera are available, but their success depends largely on the interval of time that has elapsed since the infection began, for the antitoxin can bind only such toxin as has not yet had time to enter into combination with the body cells. In tetanus the poison becomes fixed in the central nervous system so rapidly that the

serum has little chance for effect. The difficulty with antibacterial sera is that the body's supply of alexin is very small, so that theoretically the injection of the serum should be accompanied by an additional dose of fresh normal animal serum to supply this deficiency—an impracticable procedure. The attempt to treat one disease by means of the antiserum of another, as has been attempted by injecting diphtheria antitoxin in pneumonia and cerebrospinal meningitis, is repugnant to the principles of scientific serum therapy and tends to discredit its principles. The use of Moser's antistreptococcus serum in scarlet fever in the Vienna hospitals has not given results equal to those obtained by the author in the Riverside Hospital, following the classical lines of treatment. The introduction into the body of a child of the large amounts of serum required by Moser's plan is also objectionable, owing to a possible hemolytic action.

The Present Status of Roentgen Ray Therapy.

R. H. Boggs (*Medical Record*, May 6, 1905) says that much experience is necessary in applying the *x*-rays in order to get the therapeutic effect, as the various mechanical guides to the dosage are not always reliable. The use of the fluoroscope involves a good deal of risk to the operator, even if but infrequently employed, while it is really practically useless except for the purpose of testing tubes and making minor examinations, and gives such untrustworthy results that it should be discarded. Sufficient evidence has accumulated to give the *x*-rays a place in the treatment of all forms of tuberculosis. While a large number of skin diseases are benefited by the application of the rays, it is advisable to treat only the most obstinate in this manner, as trivial affections can be relieved by other measures with less expense to the patient. The author concludes by saying: (1) That the wide difference of opinion as to the value of the rays is largely due to the manner in which they are applied. (2) That if the best interests of our patients are to be considered, the rays must be given a place as a therapeutic agent. (3) That injury to the operators from the rays during the past two years has been due to thoughtlessness or lack of familiarity with what is going on in the *x*-ray world. (4) That in applying the rays it is essential to know the quality as well as the quantity of the rays absorbed, and that this must be varied to suit each individual case. (5) That unless the operator has had a wide experience

in the treatment of carcinoma, he should always consult a surgeon in each case, as it is certainly by the combination of surgery and *x*-ray that the best results are to be obtained.

Adrenalin Chloride in the Treatment of Asthmatic Attacks.

D. M. Kaplan (*Medical News,* May 13, 1905) recommends using adrenalin chloride hypodermically in asthmatic attacks. He says the drug if carefully administered may be used in effective dosage even in subjects with arteriosclerosis.

It is fair to contend that we have in adrenalin chloride a drug which is more efficient in the relief of asthmatic attacks than those ordinarily used in the treatment of those conditions. Even large doses of the drug freely used do not give rise to a glycosuria.

Adrenalin chloride has a distinct place in the therapeusis of asthmatic seizures.

Although relieving the paroxysms with greater promptness and certainty than most of the other drugs at our command, the hypodermic use of adrenalin chloride is in no sense curative of the disease as such, and equally useless are prophylactic injections.

The Treatment of Epidemic Cerebrospinal Meningitis with Injections (Chiefly Intraspinous) of Diphtheria Antitoxin.

G. L. Peabody (*Medical Record,* May 13, 1905) gives the results obtained in twenty-two cases of the disease treated in this way by himself and Dr. Jacobi in the Roosevelt Hospital. In all but one the diagnosis was proved by finding the meningococcus in the spinal fluid. Of the twenty-two cases four received the antitoxin only subcutaneously, seven received it at different times both subcutaneously and intraspinously, and eleven received it only intraspinously. In only one case did it seem to cause any unpleasant effect. The mortality of the twenty-two cases, while still uncertain, will go well beyond fifty per cent, and the percentage of recoveries to date is a little over nine. There has not seemed to those who have watched the cases to have been any influence for either good or evil ascribable to the antitoxin treatment.

Action of X-rays on Glands.

A. Buschke and H. Schmidt (*Deutsche med. Wochenschrift*, xxxi, No. 13) find in their experimental work on the kidneys and testicles that the reaction of these tissues to the *x*-ray is different. The kidneys are not affected except after long exposures, and their reaction is evidenced by a severe destructive process. In the case of the testicles, even after a slight exposure, marked atrophy occurs, without any appearance of inflammation. Further tests made have shown that the *x*-rays are able to suppress the sweat secretion without apparent injury to the skin or sweat glands. A case of hyperidrosis was treated successfully by this method; after a few exposures the excessive secretion was entirely stopped in the parts exposed without injury to the skin.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Visual Function the Cause of Slanted Handwriting: Its Relation to School Hygiene, School Desks, Spinal Curvature, and Myopia.

George M. Gould (*Medical Record*, April 22, 1905) says: "Slanted handwriting is bad, but not for bad reasons." It is not the cause of the spinal curvature which exists in 27 per cent of all schoolchildren, but a method of avoiding the extreme malposture which causes the spinal curvature. An analysis of the five chief objections to slanted handwriting is made, and also of nine factors which determine the posture and malposture of the body as related to the writing. George Sand's command, "Vertical writing, vertical paper, vertical body," is not obeyed because the writer so placed cannot see the writing which is being done. It is hidden by his fingers; hence he skews the paper, bends his head and body to the left, slants the penholder to the right, etc., in order to get a freer view of the "writing field." But in doing so he makes a habit curve of the neck, with convexity to the right, which is the initial morbid factor causing lateral curvature of the spine below by compensation. This malposture in writing may be prevented by peculiar penholders devised by Dr. Gould,

or by an uncommon method of holding the ordinary holder, but better by placing the paper vertically opposite the right shoulder on a desk leaf pitched at an angle of at least 30 degrees. The slanting of the common handwriting is due to a lessening of the canting of the head to the left and rotating it to the right, facts governed entirely by dextrocularity and the prevalent axes of astigmatism. The Chinese and Japanese avoid malposture in writing by their method of holding the brush, procedures in writing, etc., and hence probably their children will not show 27 per cent of spinal curvatures. The proper style of school desks in Occidental schools is described and urged. The history of slanted and vertical handwriting is glanced at. It is exclusively urged that myopia is due not to the desks, malposture, etc., but to faulty correction or non-correction of astigmatism and eye-strain. To this unscientific ignoring of eye-strain is finally charged much of the general systemic disorders of schoolchildren so widely prevalent and increasing all over the civilized world.

Foreign Bodies in the Eye.

Peter A. Callan (*Medical Review of Reviews,* April 25, 1905) says: "Never take the word of a patient complaining of an injured eye as to the presence of a foreign body. It is often impossible to make a correct diagnosis without a radiograph, and it is but just to give the patient the benefit of the doubt.

"All foreign bodies should be removed, even those that are encapsulated in the retina, when feasible. Foreign bodies that pass through the globe and lodge in the orbit require enucleation.

"A foreign body in the vitreous chamber is a much more serious problem than one situated in the anterior chamber, as the latter will tolerate a comparatively large mass, with less danger of infection.

"In removing foreign bodies of iron from the vitreous chamber a scleral incision is to be avoided when possible. In the majority of cases, where the foreign body is but a minute fraction of a grain, many attempts with the Haab magnet are necessary in order to bring the foreign body from the vitreous into the anterior chamber. (Sometimes there will be a dozen failures before the end is accomplished.)

"When the foreign body has passed through the cornea, iris, and lens, and the latter is opaque, extract the cataract and

remove the foreign body through the opening, either with the Haab or by inserting the point of a small magnet.

"The essential feature in removing all kinds of foreign bodies is to free the eye with as little traumatism as possible."

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Dermatitis Seborrheica and its Relations to Alopecia and Other Conditions.

L. D. Buckley (*Medical Record*, March 13, 1905) reviews his experience with dermatitis seborrheica in private and clinical practice, and concludes that it is an eruption that should be recognized, since it forms about one-tenth of the cases which come to a dermatologist. Both sexes are affected in about equal proportions, and though observed at all ages from one year to eighty-nine years, it is mainly a disease of middle life, almost fifty-three per cent of the cases occurring between the ages of twenty and forty. Combining the statistics of alopecia and dermatitis seborrheica, it appears that in 557 out of 880 cases, or sixty-three per cent, the loss of hair was due to the latter condition. Although the exact nature of the causative agent is undetermined, enough has been learned to establish pretty clearly that dermatitis seborrheica in all its forms is more or less contagious, and that very much of modern baldness is caused thereby, and therefore is of parasitic origin. Its development is, however, undoubtedly favored by the various elements which lower the vitality and render the skin more susceptible to the operation of such local agencies.

The differential diagnosis from psoriasis, ringworm, pityriasis rosea, syphilis, and eczema is discussed, and the author describes his method of treatment, which consists mainly in the application of various combinations of resorcin, sulphur, salicylic acid, formalin, etc. In this connection he says that proper local treatment is all essential, but for the best results a certain amount of reconstruction treatment is necessary, that the skin may not furnish such a suitable ground for the growth of the microörganisms found in it, and believed to be of etiological moment.

Multiple Myeloma (Kapler's Disease): A Contribution to its Symptomatology and its Morbid Anatomy.

T. Collins (*Medical Record,* April 29, 1905) describes this case, which is the tenth to be reported in this country, while not more than thirty-five cases in all have been recorded at the present time. The patient was a man of fifty-six, whose illness lasted about three years in all. The most conspicuous symptoms were severe pain in the back and limbs, hyperesthesia of the legs, and loss of bladder control. At the autopsy most of the organs were found to be the seat of a chronic connective tissue growth, and in the bones were small round tumor masses. The author says that the following features are worthy of emphasis: In the first place there was no deformity or alteration in the contour of the bones to be made out during life. Despite the fact that the substance of the bone was so largely replaced by new growth and the existence of rarefying osteitis to a high degree, there were no indications that there had ever been fractures or dislocations. In the second place, at no time was the peculiar peptone supposed to be pathognomonic of the disease found in the urine, and whereas other cases have been reported in which albumose was not found in the urine, this would seem to be the first case which was for a long time under observation in which repeated examination of the urine extending over several months, during which time the disease was fully developed, failed to find albumose. Detailed pathological reports and drawings are appended.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Pseudohermaphrodism.

L. Rydgier (*British Journal of Gynecology,* November, 1904) reports a patient of forty-four who was admitted into hospital with a hernia of the right labium majus which had lasted for six years, and during that time had merely grown larger. The patient had never menstruated, aborted, or had a child. The mammary glands were well developed. Examination disclosed a tumor the size of a fist situated in the inguinal region and right labium majus, giving a dull tympanitic sound on percus-

sion, and easily reducible into the peritoneal cavity. Two fingers could be passed through the inguinal rings. Neither collum nor corpus of the uterus could be felt. Kocher's operation for the radical cure of the hernia was performed.

The hernia contained a body resembling a uterus with its adnexa. The uterus appeared to be rudimentary; on the right there was a body which on section seemed like a testicle, and there was a hard cord on the same side. To the left of the uterus there was a large cyst with thick walls. Microscopic examination proved that the body on the right had the typical structure of a testicle, but there were no spermatozoa in the canaliculi. In the cyst on the left nothing was found except bundles of smooth muscular fiber; the hard cord was merely the vas deferens with highly developed smooth fibers. In view of the presence of a uterus and a testicle the author considers the case one of complete masculine pseudohermaphrodism; he has only found five similar ones recorded.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
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Brain Hemorrhage.

In the *Journal of the American Medical Association* of May 13, 1905, Wm. A. Dickey writes of brain hemorrhage, confining himself to those cases incident to degeneration of the arterial coats. These alterations, although resulting from many conditions, he believes in the main to be due to alcohol, syphilis, and all causes which conduce to increase of blood-pressure, *e.g.*, great muscular effort, overeating, etc. The author is a firm believer in the dilatory effects of alcohol, notwithstanding some recent claims which have made light of that view. Also as a factor in arterial degeneration, he believes that not only does the consumer of large quantities of alcohol have enfeebled walls, but that the chronic drinker of smaller amounts is likewise sure to show a poor vascular condition. He believes that the heavy meals should be taken at the middle of the day, and that articles of diet producing flatulence should be avoided because of the danger of disturbed heart action; and to these attacks of dis-

turbance of cardiac action is attributed many sudden deaths, on account of the extra vascular pressure thus induced.

These attacks are almost always sudden, and the call upon the physician's services requires prompt and wise treatment. Delays are dangerous, and the patient should be handled as little as possible. The head should be elevated, clothing loosened, cold extremities warmed with hot-water bottles, and everything done to lessen blood-pressure. The exhibition of ergot, iron, tannic acid, and the bromides he thinks worse than useless. To aconite, veratrum viride, gelsemium, and bleeding he attributes the greatest efficacy in lessening intravascular pressure. These should be employed in the order above given, followed by the exhibition of gelatin, either by the mouth or hypodermically. The use of cathartics is to be deprecated, and the ice-bag he thinks of doubtful value in these conditions.

An Encouraging Case of Locomotor Ataxia.

In the *Journal of the American Medical Association* of February 18, 1905, Guy Hinsdale, of Hot Springs, Va., reports a case of tabes which had developed typically classic symptoms, girdle sensation, absent patellar reflexes, lancinating pains, gastric crises, absent sexual desire and power, failing vision, inability to walk in the dark, contracted and sluggish pupils, ataxic gait, Romberg's symptom, altered sensation, etc., and in which great improvement took place under treatment.

The patient was put to bed and given the usual rest treatment, together with electricity (sinusoidal), massage, and educational movements. The medical treatment consisted chiefly of nitrate of silver and extract of belladonna. Potassium iodide, in even small doses, was badly borne. Patient returned to his usual vocation in about three months. After nearly three years of usefulness he returned for further treatment, and again improved as quickly and markedly under treatment.

Great stress is laid upon the (commonly overlooked) importance of rest in these cases.

THE MEDICAL AGE

VOL. XXIII. DETROIT, JUNE 25, 1905. No. 12.

ORIGINAL CONTRIBUTIONS.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

BY J. A. DOWNS, M.D., PH.G., GLIDDEN, IOWA.

Tuberculosis is an acute, or more frequently chronic, infectious disease, caused by the bacillus tuberculosis. This organism produces specific lesions, taking the form either of separate nodular masses or diffuse growths infiltrating the tissues. These tubercles undergo caseation and sclerosis, followed by ulceration, or more rarely calcification.

In 1865 Villemain first proved its infectious nature by inoculating rabbits and guinea-pigs with particles of cheesy masses, and producing the typical lesions of tuberculosis. In 1881 Koch discovered the tubercle bacillus, which we now know to be the specific cause of the disease.

Early Anatomic Changes in Pulmonary Tuberculosis.—In all cases the primary changes or lesions are due to tubercular infiltration, which is at first confined to certain lobules, though it may later involve extensive areas of lung tissue. In most cases the starting-point is in the smaller bronchi. Soon the bronchioles and corresponding air vesicles become blocked with inflammatory exudate. These areas then undergo caseation, softening, liquefaction, and expectoration or absorption of the morbid products. Ulceration of the walls of the bronchi also takes place, forming small cavities, which will, unless calcification takes place, coalesce to form larger cavities.

Modes of Infection.—There is or has been great diversity of opinion as to the mode of infection in pulmonary tuberculosis. Frebelius has found congenital tuberculous lesions in 115 out of 16,580 autopsies. Schmorl and Giepel found evidence of placental tuberculosis in 9 out of 20 placentas, taken from tuberculous

*Read before the Medical Section of the Iowa State Medical Society, at Des Moines, Ia., May 18, 1905.

women. These and many others prove that a tuberculosis of any organ may occur during intra-uterine life, that a placental infection may occur early in pregnancy, that placental tuberculosis occurs not only in acute miliary and far advanced tuberculosis, but may also occur in the first and second stages of the disease. The origin or point of entrance of the infection in extra-uterine life is hard to determine, as it may take place through an abrasion of the skin, or of the mucous membrane of the respiratory, gastrointestinal, or genito-urinary tracts. This focus of disease may heal and remain latent for years, when under the proper conditions of trauma or lowered resistance the infection may invade the blood or lymph channels, and set up an active pulmonary tuberculosis. The avenues of entrance for the tubercle bacillus are then as follows: (*a*) Placental infection; (*b*) through the teeth and mouth by the lymph glands; (*c*) through the tonsils and blood stream or lymph channels; (*d*) through the respiratory mucous membrane; (*e*) through the intestinal mucous membrane; (*f*) by direct inoculation. For this reason it behooves us in trying to decide for or against pulmonary tuberculosis to investigate carefully the condition and function of each organ of the body.

Difficulty in Diagnosis.—Butler says: "The diagnosis of an advanced case of pulmonary tuberculosis is readily made by the discovery in the sputum of the tubercle bacillus, conjoined with the well marked physical signs. The disease is, of course, most difficult to discover at the very time that its recognition is of the greatest importance, namely, at the beginning. It is probable that if the physician resisted his lifelong habit of optimism and erred in the opposite direction in cases of suspected incipient pulmonary tuberculosis, the mortality list would be shorn of a measurable proportion of its bulk. Phthisis often masquerades under the guise of 'malaria' or 'bronchitis,' and hemoptysis is simply 'from the throat.' "

Pretubercular Stage, or Early Stage of Tuberculosis.—We often hear of a pretubercular stage—that is, a stage in which certain phenomena appear and merge into, or are replaced by, the typical symptoms of pulmonary tuberculosis. This ground is covered so fully in a letter which I recently received from a friend who has devoted his entire life to this work that I can in no way serve you so well as by quoting him in full. He says: "What is considered the pretubercular stage by many writers is nothing else than the earliest stage of development of the disease. The signs of this so-called pretubercular stage are the

early symptoms of the first invasion, or of a light form of infection, which lightness may be due to poor and inactive germs, or strong defenses in the affected organism. These symptoms are as follows: Abnormal activity of the development of the hair system; transformation in a few years of the color of chestnut or brown hair into reddish or golden color; unusual lazy or languid pace or behavior in a normal individual; unusual activity of the brain in a child, which makes it prematurely intelligent, precociousness generally, and sometimes the prodigies which are the pride of parents; occasional slight fever in a child when it is tired; slight afternoon fever about three or four o'clock, and subnormal temperature in the morning; frequent slight headaches in children; frequent nosebleed; persistent excessive loss of phosphates in the urine; recurrent and chronic tonsillitis, and tonsillar hypertrophy, which is itself very frequently a local form of tuberculosis; adenoid vegetations; glandular enlargements in the mediastinum, which are usually characterized by subdulness perceptible in the posterior region of the thorax, about the hilum of the lung and the point of the scapula —this symptom may or may not be accompanied by cough; it is, moreover, accompanied by peculiar and quite characteristic puffiness of the face, which gives it a lymphatic appearance where it did not before exist; persistent or recurrent pain at a fixed point in the thorax, particularly about the shoulder-blades; flushing of the face, one cheek or the other and sometimes both, with or without temperature; dry pleurisy, or pleurisy with effusion, either of which is nine times out of ten tubercular in its nature, whether it disappears, or recurs, or develops seriously; persistent dry or recurrent cough; protracted slight expectoration from the bronchi, generally glistening, or pigmented with coloring matter like soot; occasional expectoration of mucus tinged with blood, when coming from the bronchi; certain forms of persistent or recurrent dyspepsias; hemorrhoids. These are the most characteristic symptoms to be noticed for the early diagnosis of tuberculosis. It is very hard to make those interested believe that they are really symptoms of this disease, and here is the great trouble in the way of a physician who would begin treatment early to arrest tuberculosis and to prevent its spread. That these symptoms are reliable indications of early tuberculosis is unquestionable, and can be demonstrated by the serum test, as well as by the tuberculin test, and furthermore, by the histories of the cases themselves when followed to a conclusion. The very leading authorities of the world are practi-

cally unanimous on these points. Sometimes only one or two of these symptoms are present, other times there are more, but what is most striking to a close observer is the symptom-complex which the signs present, and the appearance of the individual involved."

One of the earliest symptoms complained of is a tendency to catch cold easily on the slightest exposure, accompanied by cough and aching of the body and limbs, but more particularly by a sense of fulness in the chest. The cough may be very slight and entirely overlooked by the patient. It is apt to be more severe and paroxysmal upon lying down at night, and again upon first arising in the morning. The appetite is capricious, being ravenous at times, and again being no desire for food. After eating there is often a sense of fulness in the epigastrium, with acid eructations. Vomiting after meals is quite common. The patient complains of being tired, has troubled sleep, and does not feel refreshed after a night's rest. The method suggested by Tetan, that of taking the temperature each night and morning for twelve days, and if the average of the added morning and evening temperatures exceeds 99½ degrees the patient is either tubercular or is strongly disposed to it, is I believe of considerable value, and will often aid us in making a diagnosis before we get the characteristic subnormal morning and elevated afternoon temperature, followed by profuse perspiration at night.

Value of Physical Diagnosis.—The value of careful, painstaking work in the physical diagnosis of these cases cannot be overestimated. The pulse in pulmonary tuberculosis early becomes increased in rapidity to from 90 to 110 beats per minute, and always of low tension. On inspection the chest will be found more nearly round than normally flattened in the anteroposterior diameter, and at the same time elongated. This long, round chest is one of the predispositions which we talk so much about. The clavicles are usually prominent; the intercostal spaces are slightly sunken; the veins showing plainly through the delicate skin of the chest as tortuous blue lines. Defective expansion is observed early, especially at the apex of the affected side, extending later to other parts of the chest, as consolidation progresses. Absence of the costal type of breathing in a woman is almost always due to either tuberculosis or pleurisy. Palpation of the chest in cases of pulmonary tuberculosis gives increased tactile fremitus early in the stage of consolidation, always remembering that it is normally a little more marked over the right than over the left apex. Percussion, while it does not

elicit the very earliest signs of pulmonary tuberculosis, yet carefully used is of value at quite an early stage. It should always be made lightly, using either plexímeter and hammer or the fingers, as one's convenience or taste may direct. The region of the apices of the lungs should be carefully gone over, both front and back, constantly comparing the notes elicited at the corresponding parts of each lung, as there can be no fixed standard of tone. Also note carefully if the lung tissue extends to the same height on both sides, as often slight consolidation will cause sufficient retraction downward of the apex of the affected side to be readily detected by percussion; or again this retraction will cause a narrowing in the resonance on the affected side. In this way the entire chest should be gone over carefully, giving especial attention to the axillæ, as here and along the lower borders of the scapulæ may often be found the first evidence of disease by percussion dulness.

On auscultation the vesicular breathing may be found slightly sharper than usual, but more commonly it is diminshed. The corresponding regions on the two sides must be compared, first during quiet breathing, then on forced inspiration. Prolonged expiration is of great value as an early sign, and roughened or cog-wheel inspiration at the apex is of great diagnostic value. Small, moist râles may early be present, due to tuberculous bronchitis, and pleuritic friction sounds due to a dry pleurisy.

Tuberculin as an Aid in Diagnosis.—As to the diagnostic value of injections of tuberculin, as well as the danger of converting a local or latent focus of tuberculosis into a general or active one, opinion varies greatly. Until recently it had many enemies, but at present the general consensus of opinion seems to be that if the temperature be taken every three hours for four days and found normal, and strict asepsis be observed, there is very little or no danger in its use; then by beginning with 0.001 gramme as the initial dose, and if no reaction occurs, then increasing the dose by 0.001 gramme each day until reaction does occur, or the dose has been carried to 0.005 gramme, or even up to 0.01 centigramme, there will occur a positive reaction in 75 to 80 per cent of doubtful or suspected cases.

Detection of the Bacillus Tuberculosis.—Not only in suspected tuberculosis, but in every chronic case in which we have expectoration, it is our duty to make a microscopic examination of the sputum. This sputum should be collected in the morning, as in this we are most apt to find bacilli. If the expectoration be very slight it may be best to collect it for an entire day. It

may be stained by the Ziel-Nielsen, the Gabbett, or any other good method, and examined microscopically under a 1/12 inch oil immersion lens, in a good light. The finding of tubercle bacilli is the true criterion of the trouble; so if found, ever so few in number, one can make a positive diagnosis of pulmonary tuberculosis. But if not found in the first specimen, others should be made, and this repeated each week. Great care must be used in the staining, and in the search for these organisms, or they will often be overlooked. Unfortunately bacilli do not appear in the sputum until the disease has made considerable progress.

Importance of Case History.—Of almost as much value as the physical findings is the case history. While there is much discussion as to whether tuberculosis is or is not hereditary, the fact remains that, whether due to heredity or to unusual exposure to the infection, it frequently recurs in the same family, so in making our diagnosis we should consider this possible factor; also the sanitary conditions surrounding the patient, the occupation, the history of previous infectious diseases, as measles, whooping-cough, typhoid fever, etc. A previous history of pleurisy (especially dry), or lymphadenitis, should have great weight in deciding all doubtful cases, as not less than 90 per cent of these cases are tubercular, and given a focus of latent tuberculosis in the body, it is but a step to a more active process.

In reviewing this subject I would again call your attention to the importance of the following in the early diagnosis of pulmonary tuberculosis:

1. Pretubercular symptoms (so-called).
2. Gradual loss of flesh and strength, without obvious cause.
3. Environment, family history, etc.
4. Previous history of: (*a*) Pleurisy; (*b*) other acute infectious diseases; (*c*) hemoptysis; (*d*) glandular involvement; (*e*) hypertrophied tonsils, or adenoids.
5. Mean of daily temperature.
6. Rapid pulse (90 to 110), always of low tension, and rate out of all proportion to the temperature.
7. Increased respiratory rate.
8. Respiratory capacity of less than two inches.
9. Inequality of the pupils.
10. Small crepitant râles in apex of lung at end of respiration.
11. Jerky or cog-wheel inspiration.
12. Retarded or lagging expiration.

13. Reaction to tuberculin, present in 75 to 80 per cent of suspected cases.

14. Repeated microscopical examination.

15. Repeated physical examination.

16. Treat every suspected case as tuberculosis until proven otherwise.

In conclusion, gentlemen, allow me to say that most of our worst failures in diagnosis are made not so much through ignorance as through carelessness, and until we eradicate this factor in diagnosis our cases of pulmonary tuberculosis will not be diagnosed in their incipiency. On this foundation of early diagnosis rests all the superstructure of treatment, as well as preventing the spread of the disease. Taken in its early stages we can expect a large per cent of cures, while taken in its advanced stages, as usually diagnosed, we can but sit idly by and see our patients perish, reaching out to us their poor, emaciated hands for the help which we are powerless to give, while "the great white plague" marches steadily onward.

UP-TO-DATE IDEAS CONCERNING GONORRHEA.

BY WILLIAM LLOYD, A.M., M.D.

The profession is being forced by overwhelming proof into the belief that gonorrhea can be a general toxemic affection, although the microbes which form the toxin are localized in or around a mucous tract; the gonococcus in its process of growth produces an irritating toxin which is the cause of all symptoms both general and local. This infection may spread in two ways: first by continuity to the ducts and organs which communicate with the tract affected, or it may penetrate to the interior of the body either by direct extension or by a process of growth through the affected mucous membrane. In this way the gonorrheal invasion reaches the cellular tissues, the lymphatics, lymph glands, and the vascular system; it is rendered possible by the paralyzing power of the toxin absorbed upon the leucocytes which retards the process of phagocytosis. Reaching the arterial circulation the gonococci are conveyed to the heart, to terminal capillary circulations in serous or synovial membranes, or to vessels in fibrous structures. In such structures the microbes, being implanted, develop more toxin, which sets up local trouble. There is a lesson in these statements to the active practitioner: the invasion of the organism is favored by too energetic meas-

ures against the local infection, for these depress the local powers of resistance and by lacerating the mucous surfaces often open the door to a wide-spread infection.

It is now well known that a generalized infection may follow gonorrheal ophthalmia: for example, twenty-three cases of joint affections secondary to purulent ophthalmia in infancy and childhood have been collected, eighteen of which were in new-born and five in older children, the arthritis following in from two to three weeks. In three series of cases reported by Besnier and Julien, Gresolle and Gricolle, a generalized infection resulted in from 1.5 to 2.8 per cent of all gonorrheal patients.

The gonococci circulate in the blood, but the presence of the gonotoxin in the blood plays the most important part in the production of general symptoms. To this irritating toxin all the symptoms of generalized infection are to be referred, based upon experiments made on animals with the toxin, which resulted in local and general reactions, characterized by inflammations, malaise, rise of temperature, and loss of weight and strength.

Drobney, in 1898, observed that in those cases in which the gonococci were found within the pus cells the disease ran a milder course than those in which the organism was free. Formerly it was thought that pus was rarely, if ever, produced by the gonococcus alone, and that the presence of pus in gonorrhea must be produced by the addition of pyogenic organisms, but since the work of Lang and Paltauf in 1893, pyogenic properties have been attributed to the gonococcus with all truth.

Young successfully cultivated the gonococcus from cases of arthritis, subcutaneous abscess, acute and chronic cystitis, pyonephrosis, and peritonitis; the best culture medium being "hydrocele agar," composed of two parts of ordinary agar to which one part of hydrocele or ascitic fluid is added, the mixture being performed at a temperature of 40°C. Gonococci from different sources vary considerably in their culture characteristics; some maintain a vigorous growth after numerous transplantations, while others grow only two or three times or only once. Gonorrheal infection of joints may be of all degrees of severity from the simplest rheumatic type to the most destructive arthritis. All of Young's cases in which cultures of the gonococcus were obtained were of such severity as to demand arthrotomy with irrigation of the joint. Formerly it was believed that the gonococcus could not cause a connective tissue abscess, and it

is only within the last few years that abscesses unconnected with tendon sheath infection, due to gonococci, have been clearly proved. Young reports one case in which four such abscesses situated in muscles in various parts of the body occurred in a man with a chronic posterior urethritis.

Rabbit serum is an excellent medium for the growth of the gonococcus, while albuminous fluids from man are also excellent when mixed with peptonized gelatin in the proportion of one of the former to two of the latter. As the organisms live on the majority of these media for only three or four days, it is necessary to reinoculate them every forty-eight hours; but rabbit serum is an exception, as on this medium the organisms live for three or four weeks or even longer. To obtain large quantities of culture, ascitic fluid mixed with peptonized bouillon, in the proportion of one part of the former to three of the latter, is most serviceable. Glucose, in very small proportion, 1:1000, augments its value. This is the method to follow to get pure cultures: A small drop of pus is spread upon the surface of the coagulated rabbit serum, which is then placed in the incubator at 36°C.; if the gonorrhea is recent, and if the pus contains many gonococci, twelve hours' incubation will produce many small, transparent colonies, the gonococcus developing more quickly than the other microörganisms present in the pus of gonorrhea, it being easy to inoculate an isolated colony into a second tube. Inoculated into the urethra the growth produces a purulent discharge resembling true gonorrhea. The uniform failure to inoculate the gonococcus in the lower animals may be accounted for by the higher temperature of the animals which are experimented on. At the point of inoculation a slight edema or a large abscess may be produced, depending upon the amount of toxin injected, the constitutional manifestations being fever and loss of weight; this fever disappears at the end of from forty-eight to seventy-two hours, the temperature becoming subnormal. No gross lesion can be found, the principal phenomenon being a profound anemia. The toxin is partly intracellular and partly extracellular; it is precipitated by strong alcohol, and a stable solution of it can be made by the use of glycerin. The glycerin solution of the toxin is rapidly fatal to rabbits. If injected into the anterior chamber of the eye gonotoxin shows remarkable pyogenic properties. The urethra is not immunized by repeated injections of gonotoxin. The serum of goats immunized to gonotoxin

shows a well-marked antitoxic action when injected into rabbits at the same time that the toxin is injected.

It is hard to obtain pure cultures of gonococci from the urine, the principal reasons being the acuteness of the inflammation and the fact that gonococci do not live in urine unless it contains a considerable amount of albumin. The gonococcus may be found in the bladder without producing cystitis, the production of cystitis probably depending not only upon predisposing causes, such as congestion, retention of urine, richly albuminous urine, etc., but also upon the virulence of the gonococcus; but gonorrheal cystitis is generally short-lived.

Fenney states that 20 per cent of the male and 5 per cent of the female population of America have contracted gonorrhea; he considers that alcohol is a factor in predisposing the individual to infection, never having had a gonorrheal patient who was a total abstainer, and rarely one who did not admit an excess of alcohol at the time of infection. Perhaps the alcohol in the circulation or urine affects the resisting power of the urethral epithelium, but usually intoxication is a part of the dissipation, and hence his conclusions are not so trustworthy.

Janet a few years ago studied the haunts of the bacteria in the urethra; his results are as follows: At the edge of the prepuce, along the junction of the mucous membrane with the outer skin, there are sometimes small pocket-like depressions; Janet has seen as many as six of these around the prepuce. The congenital paraurethral fistulæ and diverticula of the urethra and penis are very important, and the various forms are classified by Janet as follows:

(A) In the anterior urethra and penis. Cases with normal position of the orifice at the tip of the glans: (1) Pockets formed below the orifice through narrowing the same. (2) Median depression above the orifice; a small band may divide the orifice into two, so that above the band is the abnormal depression, while below it lies the narrowed orifice. The depth of the depression varies, and it may also end in a second cul-de-sac. (3) Median paraurethral passages in the upper wall; these may exist as fine canals which either open in the upper commissure of the orifice or further back in the fossa navicularis. The opening may be double. When these canals are situated more deeply in the fossa navicularis they correspond to the fold of Guerin, and when more deeply still to the lacunæ of Morgagni. The latter can only be regarded as paraurethral

canals when they are very deep. (4) Combinations of the foregoing varieties occur. (5) Very rarely an accessory canal is found on the dorsum of the penis. (6) Sinking in of the side walls of the fossa navicularis. This may either be transverse and lead to the formation of a complete or an incomplete diaphagm, or it is vertical, and accompanies then the first grade of hypospadias. In hypospadias, as is well known, the orifice lies transversely instead of vertically. In the very first grade of hypospadias the orifice is almost normal in appearance, only it lies somewhat deeper and carries at its lower part two lateral horns, so that an intermediate stage between the normal vertical orifice and the transverse orifice of hypospadias is present. The side horns of the orifice are continued into the fossa navicularis as grooves, which gradually plane off into the urethra. (7) Lateral paraurethral channels: (*a*) Forms corresponding to the above, the grooves being closed into canals. (*b*) Lateral channels corresponding to the lacunæ of Morgagni; they are less frequent than on the median upper wall, but are more frequent in hypospadias. (*c*) Dimples and blind canals which open on the lips of the meatus. They are often difficult to recognize, and are best found by lateral pressure, whereby a drop of serous fluid or pus is expressed from the very fine opening. Sometimes there is merely a dimple, in other cases a long canal ending in the neighborhood of the frenum, and in suppuration may rupture here. (8) Paraurethral canals on the floor: (*a*) Blind channels opening at the lower commissure of the meatus. (*b*) Canals leading to a pocket under the frenum; such pockets are frequent and readily suppurate during gonorrhea, and tend to rupture outward. From these pockets channels may go directly into the urethra, to the fossa navicularis, to the meatus, or to the outer skin. (*c*) Fistulæ arising from periurethral abscesses, shown by the shortness of the track and the infiltration of the surrounding tissues. (9) Crypts and diverticula in the lower urethral wall, arising from suppuration in the glands of Littre, either closed or open; and lastly, a large diverticulum in the floor of the bulb as described by some authorities, and also the chance infection of Cowper's glands, should be mentioned here.

(B) *Cases with Hypospadias.*—The same anomalies are found, but they are more frequent and more complicated. (1) Paraurethral channels lying in the middle line. The meatus opens transversely at the base of the glans, and above this lies a broad, somewhat prominent surface which corresponds to the

dorsal wall of the fossa navicularis. In the middle line of this surface the median canals open, while the lateral canals open on both edges. The openings of the median canals number one to four, and the lowest is usually hidden in the urethra. The length of the canals is at most 3 or 4 millimeters. (2) Lateral paraurethral channels. (3) Lateral spaces. These are rare. They are large spaces which lie on either side of the hypospadias, and extend laterally along the sulcus coronarius as far as the lateral surface of the penis. Sometimes they open into the urethra, and sometimes they only open through the lowest of the lateral paraurethral channels.

(C) *Strictures.*—The distention of the urethra behind strictures provides hiding places for bacteria; here the gonococci are readily removed by irrigation, but in infection due to other bacteria full dilatation of the stricture is necessary. The squamous epithelium of the stricture is an unfavorable nidus for gonococci, but a favorable one for other bacteria.

The best means of diagnosis of the anomalies described by Janet is pressure on the glans; should a droplet of pus appear, find the orifice with a fine stylet and measure its depth. Then introduce a sound into the urethra, and the contact of the stylet with this shows a communication between the channel and the urethra. Where the diverticula are deeply seated one can convince himself of the presence of a paraurethral channel by the appearance at the meatus of a drop of pus on lightly massaging the penis after micturition. Where deeply seated diverticula follow suppuration in a gland, the urethroscope is of value. Many American genito-urinary surgeons find that the urethroscope is not only the most accurate but often the only means of diagnosis where the diverticula are deep seated.

Unfortunately we have known for years that the germicidal action of inorganic silver salts is reduced by the affinity of these agents for cell protoplasm. This is a double disadvantage, for the antiseptic power is reduced and the tissues are damaged. Hence the search for inorganic silver salts that has been so brilliantly carried out in the past eight years. There are a number of these newer drugs, each with its own particular advocates. Finger makes three groups of drugs for gonorrhea: simple disinfectants such as protargol and largin; antiseptic astringents such as nitrate of silver, argentamin, and argonin; and lastly, simple astringents such as alum, permanganate of potassium, and sulphate of zinc. He regards the

second group as often ineffectual in the acute stage because the deeper layers of the epithelium are not penetrated by these agents. On the other hand Pezzoli states for largin, one of the albuminoid silver compounds, that it is superior to protargol, argentamin, and others of the same nature, in that it has greater power of inhibiting the growth of gonococci, while its power of penetration is great. Neisser considers protargol the valuable preparation in the treatment of gonorrhea; beginning with 0.25 he rapidly increases to 0.50 to 1 per cent solution. The injection is used three times daily, the fluid being retained for five minutes, and the third injection for a half hour. Behrend, using protargol in fourteen cases of gonorrhea, does not agree with Neisser that it is one of the best of the remedies, nor with Frank that it will free the urethra from gonococci in from one to three days, for he has found them in the discharge three to five weeks after treatment was begun. He argues that if the germicidal activity of protargol is not sufficient to destroy the germs soon after infection, then this method of treatment should be abandoned and the astringent method resumed, for the only argument for the use of such drugs is the supposition that it prevents the infection from spreading into submucous tissues. Silver citrate has been tried in acute gonorrhea; Werler claims that the injections are to be begun as soon as the patient is seen, the injections being used four or five times daily at first. The beginning strength should be 1:10,000 in the acute stage, increasing gradually to 1:3000, the temperature of the injection being lukewarm. In the anterior urethra 6 to 8 cubic centimeters, and in posterior urethritis 15 to 20 cubic centimeters, are to be injected with a special syringe. The use of guaiacol in gonorrheal epididymitis is recommended by Goldbery, who paints the drug, mixed with an equal amount of glycerin, directly upon the scrotum. I know nothing about it.

The treatment of gonorrhea by injections of argonin is the subject of a paper by Christian, and his conclusions are: (1) Argonin is absolutely unirritating, and can be used in solutions of from 1 to 10 per cent. (2) In the great majority of cases it lessens the discharge very rapidly. (3) Its use is generally followed in a short period by disappearance of the gonococci. (4) This disappearance of the gonococci is not in all cases permanent; in fact, there is a tendency to relapse in a number of cases. (5) It has distinct value as a hand injection in the stationary period, but is of very little benefit in the mucous stage or stage of decline. (6) It produces no results in chronic

anterior urethritis. Again, another observer, Marshall, is not favorably impressed with argonin, and from personal experience fails to see the advantage it has over other drugs. He has had no experience with itrol (silver nitrate) or protargol (a silver proteid compound), but objects to all the silver preparations on account of their instability; so his criticism is less valuable.

Christian, a well known Philadelphia specialist, believes that little, if any, advance has been made in shortening the actual duration of the disease; the results obtained in chronic urethritis, however, under the more recent methods of treatment have been most gratifying. Every method of treatment has been tried at various times by him, but the most satisfactory is that now in use. It is as follows:

During the first ten days or two weeks of the disease use protargol and permanganate of potassium locally. Two separate solutions are made: (1) Potassium permanganate, ½ grain to 8 ounces; and (2) protargol, 10 grains to 4 ounces of distilled water. Christian directs the patient to flush out the urethra with six syringefuls of solution No. 1 three times daily, and this is followed immediately by the use of one syringeful of No. 2 solution, which is held in the urethra for ten minutes. After four days the permanganate solution is strengthened to 1 in 4000 and the protargol to one per cent. After the second or third week bismuth and zinc are used, a favorite combination with him being:

Zinc sulphate	gr. x.
Bismuth subcarb.	ʒij.
Sol. hydrast. (colorless)	ʒss.
Distilled water	ad ʒiv.

He also gives at this time copaiba and oil of sandalwood. Six or seven weeks is the usual time for complete recovery under this plan. Chronic anterior urethritis due to stricture, or granular patches with subepithelial thickening, was treated by the passage of a sound three times a week, the withdrawal of the instrument being followed by an irrigation of silver nitrate, increasing in strength from 1 in 8000 to 1 in 1000. Chronic folliculitis involving the glands along the floor of the urethra was treated by the occasional introduction of a sound smeared with Finger's ointment, which is composed of iodine gr. v, potassium iodide gr. xxx, oleum olivæ ʒss, lanolin ad ℥j. Where chronic posterior urethritis existed prostatic massage was preceded by irrigation with silver nitrate solution. Here also use

deep instillations of protargol (3 per cent), sulphate of copper (2 per cent), or nitrate of silver (1 per cent).

Albargin, a combination of gelatose with silver, containing 7½ or 15 per cent of the metal, has been used by Bornemann, working in the clinic of Joseph in Berlin, in sixty cases. In eighteen of these complications occurred. Gonococci disappeared in from two to thirty-nine days, but in two cases were present after sixty days. The average strength of the solution used was 1 in 500, with water as the vehicle. Niessen, an excellent adviser, used protargol in 244 cases in soldiers, the patients being at the same time kept in bed on a low diet for ten to fourteen days; complications arose in 34 per cent of the cases. From this experience he draws the following conclusions: Protargol takes about the same time as silver nitrate to kill the gonococcus—*i.e.*, three weeks; no discomfort follows the use of ½ to ¾ per cent solutions; complications are not so serious as with silver nitrate; in the gleety stage astringents are more valuable than protargol; but the disease is not cut short by the use of this remedy.

For treating gonorrhea a silver compound different from the organic combinations such as protargol, dermatol, etc., has been tried, a combination of ichthyol and silver, under the name of ichthargan. The metal is present in the proportion of thirty per cent, and ichthyol sulphonic acid is used instead of nitric acid. Ichthyol, although now distilled from bituminous quartz, is still considered an organic body, as it was originally obtained from fossil fish and animals. Ichthyol was used in weak solution according to Janet's irrigation method as far back as 1897, and favorable reports were made, but the combination has not yet been used extensively in this country.

The combined method of Schenck consists of mercurol two per cent, or protargol five per cent, or Credé's silver one per cent. He injects until the anterior urethra is distended and the fluid is retained for five minutes, and the urethra afterward irrigated with two gallons of 1 in 1000 permanganate of potash solution. This combined treatment is carried on twice a day, the permanganate being gradually strengthened to 1 in 500. The average time required for the destruction of the gonococci is six to ten days, and the total duration of treatment fourteen days. After the gonococci have disappeared the permanganate irrigations are continued alone. Internally a combination of cystogen (5 grains) and oil of sandalwood (10 minims) is given in capsules every four hours. A word of caution as to

protargol is necessary; its value depends on the method of solution of the drug. On concentrated solutions, which are usually kept as stock solutions, light and air produce an oxidation of the protein bodies, by which the fluid becomes dark. Freshly prepared ½- to 1-per-cent solutions are yellowish-brown in color. Heat should not be used in preparing the solutions, which should always be freshly made up with cold water, and dispensed in colored vials.

Janet in treating the various diverticula which he describes so well washes the preputial sac with sublimate lotion, and warts are removed. For treatment of diverticula and paraurethral channels he recommends simple irrigation by means of specially constructed cannulæ, the use of a short urethroscopic tube being necessary in some cases. In very fine, long channels, which are unsuitable for irrigation, and on account of their position in the tissues of the glans cannot be laid open, Janet uses a special trocar, with which he forms a counter-opening and draws a doubled silken thread through the channel, the thread remaining, frequently renewed. After a few days the dilated channel may be irrigated. Cauterization produces rapid disinfection, but seldom leads to complete obliteration. The galvanocautery is more useful than silver nitrate for this purpose. In blind paraurethral channels the endoscopic galvanocautery of Kollmann is useful; if a counter-opening exists a platinum thread with two clamps is of benefit. Where the wire touches the urethral mucous membrane it must be enveloped in cotton-wool. Electrolysis is less useful, and only to be recommended in the deepest paraurethral channels. Laying open the channels is undoubtedly the best method. Weber's knife is very useful. Total extirpation is only possible in subcutaneous channels.

In Janet's treatment of inflamed glands, lacunæ, and follicles in the urethra and prostate, if the infection is due to the gonococcus it is not very resistant to treatment. There is little tendency to blocking of the inflamed gland duct, or if this does happen it soon opens again and the contents are discharged. He treats these cases by his irrigation method, and although healing may be somewhat delayed, it always occurs. After the acute stage is past he combines light massage of the urethra and prostate with irrigation. Where glandular infection is due to other bacteria it is more stubborn, and irrigation often fails; Janet uses the endoscope and electrolysis in such cases.

THE ADVANTAGES AND USE OF THE MICROSCOPE TO THE GENERAL PRACTITIONER IN DIAGNOSIS AND THERAPY.

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A correct diagnosis of morbid conditions and causes is essential to a rational and successful treatment of such conditions, and microscopical examinations, carefully and intelligently made, are often essential to establish correct diagnoses.

If these declarations, simple and seemingly almost self-evident, were uniformly and intelligently accepted by the profession, there would, of course, be no place for this essay. The whole question would be settled; but, unfortunately, this is not the case. There are physicians who think they require no assistance other than their unaided five senses to diagnose all cases of disease, and regard microscopes and similar "new-fangled instruments" in a doctor's office as evidence of his medical incompetency. There is another class of physicians who also rely upon their unaided talents in diagnosis, but who, at the same time, recognize the value of the microscope and test-tube, but do not think them of sufficient importance to acquire a knowledge of their use. A third class (I wish it was a numerical third) of up-to-date doctors fully appreciate and practice exact methods of diagnosis.

No one has greater admiration than I for the diagnostic skill, often marvelous in accuracy, and the therapeutic acumen of the old family physician. It affords a striking example of how, by long practice, a person may acquire the art of seeing things to which the ordinary observer is blind, and of properly interpreting their hidden significance. I often wonder whether the methods of Sherlock Holmes, as described in the series of remarkable "Detective Stories" which bear his name, could have been conceived by a writer who had not been a family physician. But enlargement of the discerning and observing faculties by education, however valuable they are to the doctor, does not imply that he would not be a better doctor if he also possessed a working knowledge of exact methods in diagnosis. Besides, think of the years occupied in educating the senses, and the many, many probable mistakes in diagnosis and associate remorse which may have occurred to the doctor during this time.

The usefulness of the microscope becomes evident when

by its aid one is enabled to differentiate between diseases etiologically different, but so nearly identical in symptomatology that mistakes in diagnosis are common. We will take, for example, the malarial fevers and the non-malarial diseases which possess a symptomatology almost identical with the former. The type of fever caused by the tertian parasite can usually be recognized by its clinical features alone, yet how often do we meet with non-malarial diseases characterized by paroxysms of chills, fever, and sweat, which may recur in periods as definite as those in tertian malarial fever. Such cases have doubtless been seen by many of the profession, and when such diseases fail to yield to quinine, the doctor may not be able to find out, without the aid of the microscope, whether they are due to malaria, incipient phthisis, to infective cholangitis, or to lesions of the central nervous system.

Diagnostic mistakes and resulting errors in therapeutics are more common, and much more serious, in distinguishing between the estivo-autumnal form of malarial fever and typhoid fever. The clinical features of the two diseases may be so nearly alike that one is constantly mistaken for the other, and medical authors have even described a supposed hybrid of both under the name of typhomalarial fever. When I say in all seriousness that I have heard physicians of large experience and established reputation assert that in many years of active practice in this State they have never seen (recognized) a case of typhoid fever, but have seen hundreds of cases of "slow fever," it will doubtless be agreed that an intelligent use of the microscope would have radically changed their opinion of the etiology of these cases. I have observed that physicians who rely solely upon symptomatology for diagnosis do not fully appreciate the fact that diseases do not always conform in symptoms to text-book descriptions, but may vary their features, as they do their virulence, in different seasons and countries.

Since the finding of the parasites in the blood will definitely settle the diagnosis of malarial fever, and a positive Widal serum reaction, when made under proper precautions, is practically diagnostic of typhoid fever (to say nothing of the further evidence which may be obtained by separating the bacillus typhosus from the blood, feces, or urine), is not a doctor morally if not legally bound, in the interest of his patients, to use the microscope in differentiating these diseases? How often have many of us been embarrassed by inability to honestly answer the friends and relatives of the patient who say, "Doctor, what is

the matter with the patient; is it typhoid fever or is it malarial fever?" Now, when the doctor is not sure of his diagnosis, and is not willing to admit it, an inquiry of this sort is quite embarrassing, and he is very apt to seek refuge in that old lie, so oft repeated, "It is malarial fever now, but it is liable to run into typhoid fever," when he knows, or should know, that malarial fever is not a whit more liable to change into typhoid fever than a jack-rabbit is to change into a jackass. How much more satisfactory to both doctor and patient it is to be able to say it is typhoid fever, or it is malarial fever, as the disease may be.

Vigorous and proper treatment, based upon an early and correct diagnosis, is essential to the saving of human life in the pernicious forms of malarial fever; and since the microscope is essential in making a diagnosis in some of these cases, its value again becomes apparent. The symptoms of comatose malaria and those of thermic fever may be, and usually are, identical, and both diseases are most often met with in the hot summer months. Prognosis here may depend upon diagnosis, and while hydrotherapy is necessary in both cases to reduce hyperpyrexia, comatose malaria demands in addition the prompt use of quinine, which might prove harmful, certainly is not useful, in thermic fever.

The gastrointestinal symptoms of pernicious malaria may be identical with those of cholera; in fact, a distinguished author, who had evidently been deceived by the similarity of symptoms in the two diseases, gravely announced that quinine is a specific remedy for cholera Asiatic, and while a mistake in diagnosis between pernicious malaria and Asiatic cholera is less apt to occur in this country, where cholera is seldom seen, than in countries where both diseases are common, pernicious malaria is liable to be mistaken for cholera nostras, which is met with frequently in this latitude. A correct life-saving treatment in these cases must be based upon a correct diagnosis, which can be made most surely by microscopic methods.

No one knows the various, often dissimilar and insidious, modes of onset of chronic ulcerative phthisis better than does the doctor, and none knows better than he the great value of an early recognition and treatment of these cases. I, therefore, feel assured of attention while discussing them.

The early stages of chronic phthisis may be latent, and apical cavities may have formed with no general symptoms of importance; in other cases the early symptoms may be only those of dyspepsia and anemia. The symptoms of onset may be identical

with those of tertian malarial fever, regularly recurring paroxysms of chill, fever, and sweat. The symptoms of onset may be those of chronic laryngitis, or, and more frequently, of diffuse bronchitis, or of pleurisy—dry or with effusion—or the initial symptom may be a pulmonary hemorrhage.

In view of the great prognostic value of early treatment, the prompt diagnosis of these cases becomes a matter of the utmost importance, and we all know that physical signs plus anamnesis do not always make the diagnosis; for example, it is a well-known clinical fact that disseminated foci of tubercles may occupy the lung, or a part of it, and yet give no definite signs of consolidation that can be recognized by either percussion or auscultation. The signs may be those of a compensating emphysema, and the diagnosis, as far as the physical signs go, must rest upon a hyperresonant percussion note and râles of a diffuse bronchitis. The Hippocratic axiom, "From a spitting of blood there is a spitting of pus," has long since been disproved, and it is now known that hemorrhages from the lungs may occur in association with many non-tuberculous conditions. Hemoptysis has, therefore, lost the extreme prognostic significance it had at one time, but the frequency with which it is associated with beginning or advanced phthisis yet makes the recognition of its etiology, especially in a beginning phthisis, a matter of vital importance. While it is hardly probable that a pulmonary hemorrhage would precede anatomical changes in the lungs, even when it occurred as an initial symptom, it is not improbable that such changes may not be recognized by physical examination, and the specific nature of the disease may first be revealed by finding tubercle bacilli in the bronchial mucus discharged with the blood in a pulmonary hemorrhage.

But these two are not the only initial forms of phthisis in which the microscope is invaluable in diagnosis. The latent form, in which apical cavities may have formed, and in which the sputum may contain both tubercle bacilli and elastic tissue before the occurrence of symptoms of sufficient importance to attract the patient's attention; the dyspeptic and anemic forms, in which the nature of the disease is so frequently overlooked; the laryngeal form, often diagnosed as simple chronic laryngitis; the malarial form, where victims too frequently are deluged with quinine until the disease is far advanced; and the pleurisy forms, the true nature of which has only recently been recognized, afford other instances of initial phthisis in which the microscope may give valuable aid in diagnosis.

If a good microscope should cost double, treble, or quadruple the present price, and if its clinical usefulness was limited to the early detection of pulmonary phthisis, should a physician deprive his patients of its advantages, even though he saved but a single human life by its aid in his whole life's practice? As a money investment, the doctor would be a loser in this particular instance, but think of his pay in moral satisfaction. Allow me to say, however, that the money expended in the purchase of a good clinical microscope and in acquiring a knowledge of its use is not a bad investment for a doctor to make. The instrument and acquired technique will repay the money invested over and over again, and if properly used will give to its possessor great scientific pleasure, and will bring to him the respect and confidence of his clients.

The clinical and scientific importance of a knowledge of the blood in normal and pathological conditions can alone furnish a theme. The scope of the subject is beyond the limits of this paper, and I can do no more than merely present some of the facts most important from a clinical view.

The diagnostic and prognostic value of an increased or a diminished leucocytosis in certain diseases or conditions of the body is universally recognized by clinicians as important. Typhoid fever, malarial fever, tuberculosis, influenza infection, and measles are normally characterized by a diminished or normal leucocytosis, and a condition of increased leucocytosis in typhoid fever, for example, indicates either an inflammatory complication—possibly a localized peritonitis and threatened perforation—or a mistake in diagnosis. A condition of increased leucocytosis in pneumonia indicates a favorable prognosis, and *vice versa*—typhoid (septic) conditions are associated with increased leucocytosis, and this feature is important in distinguishing such conditions from typhoid fever.

The causes which produce eosinophilia in diseases caused by animal parasites are very curious. Why the eosinophiles should be increased from 2 to 4 per cent in normal conditions to 20, 30, 40, or even 50 per cent in trichiniasis, for example, is very queer, but is an important clinical fact which occurs so constantly that diagnoses of trichiniasis made from microscopic examinations of the blood have been repeatedly confirmed by finding the parasites in the muscles.

That a positive diagnosis of leukemia can only be determined from a microscopical examination of the blood is well known.

The marvelous capacity of the blood serum and other body juices to a less degree in reacting in a definite and specific manner to foreign cells, cell products, and derivatives, following immunization produced by a prior introduction into the organism of homologous cells, their products or derivatives, and of which science knew practically nothing until a few years ago, promises more for the advancement of scientific medicine than any other subject known. The well-known reaction between the blood serum of a typhoid immune and the bacillus typhosus constituting the "Widal reaction" is one of the several clinical methods of diagnosis which belong to this class of phenomena, while the antitoxic treatment of diphtheria and tetanus, and the protective inoculations (vaccinations) against certain infectious diseases, may be regarded as a few of the many therapeutic possibilities, due to specific reactions between homologous toxins and blood serum, which will be developed in time.

"The diagnosis of progressive pernicious anemia is to be made by an examination of the blood. The essential diagnostic feature is the presence of a large number of megaloblasts and the fact that these always exceed in number the normoblasts present" (Higley).

This appeal for the microscope as an aid to determining diseases is not made by a microscopical specialist, nor by a nonpractical enthusiast devoted to the pursuit of disappearing phantoms. The appeal is made especially to the general practitioner, the overworked, faithful conservator of public health, whose medical methods I would make more exact, and whose work I would make more valuable both to himself and his clients.

I am aware that a study of modern methods of exact diagnosis would for a time impose additional burdens upon the doctor, and in a measure would deprive him from the full enjoyment of deserved pleasures and recreations, but then the intellectual pleasure derived from the pursuit of knowledge would cause the period of study to pass rapidly, while the benefits to come later would more than repay him for the time given.

A good working knowledge of clinical microscopy can be acquired during the idle hours of the day, or at night, if a few of the sleeping hours are sacrificed, with no other assistance than is furnished by a good clinical microscope, books on the microscope, and microscope technology, and a willing, persevering mind.

The following plan of a self-taught course in clinical microscopy can be recommended from personal experiences: First

become familiar with the microscope as an optical instrument, after which make a study of familiar objects, such as air bubbles, vegetable fibers, molds, and other objects of simple nature. A practical course in histology, and of the morphology of bacteria, may then conclude the course. It is a common experience that beginners must learn how to see with the microscope as well as what to see and what not to see. I recall with astonishment my early experiences in a self-taught course, and particularly remember my inability to see stained tubercle bacilli in a mounted section of tuberculosis of the liver. I examined the specimen hours at a time for several days, and saw everything to be seen except the bacilli. Finally one day the stained bacilli suddenly appeared to my vision as distinctly as the fingers of my hand, and I have yet to understand why I did not see them earlier.

The medical college curriculum and plan of instruction of the present day, when compared with the college course of a few years ago, affords a strong indorsement of exact methods in diagnosis.

Miss Li Bi Cu, of Hing Chau, China, who has spent the last four years in Philadelphia taking a medical course at the Woman's Medical College, will graduate from that institution this year with high honors. So far as is known Miss Li is the first Chinese woman to study medicine in this country. She was born in Hing Chau, where her father is the leading spirit in the Methodist Church. This young woman has been in this country more than eight years, and has spent all of her time in hard study. She first studied at Herkimer College, New York. She graduated from that college with high honors, and decided to take her medical course in this city.—*Medical News.*

At the closing meeting of the Pan-American Medical Congress, held at Panama in January, it was resolved that the next congress should arrange (*a*) for an international American pharmacopœia; (*b*) for an international code of sanitation; (*c*) for an international code on temperance; and (*d*) as a sequel the establishment of lectureships on medicine as a part of the prescribed courses of jurisprudence. It was also decided that the next congress should include a section on tropical diseases; that Red Cross branches, both civil and military, should be created; and that encouragement should be given to those engaged in the campaign against tuberculosis.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

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All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE RESTRICTION OF WATER-DRINKING.

The drinking of copious quantities of water is a proceeding which the presence of hot weather inculcates, and is one which has hitherto been attended by little or no restriction or supervision on the part of the physician. A little conversation with any intelligent layman will usually demonstrate how little his intelligence extends to questions of physiology here as elsewhere. It is generally found that flushing the system with water is a popular proceeding, and one which is believed to play a part in that generally universal conception of cleaning out the system. It is not strange that much popular misconception should exist in regard to such matters, as the opinions of physicians themselves are often strangely at variance with laboratory teachings in regard to the matter. The ever-present proprietors of water cures and healing springs are always ready to stimulate any unreasonable or illogical concept, should this contribute to a salutary belief in the efficacy of their peculiar remedies.

The monograph of Professor Von Noorden, recently issued, is a timely statement upon this subject of water-drinking. In this country water-drinking and colon-douching have been carried to harmful excess, and the advice of cranks and irregulars has been followed in a sheepish and irrational manner. Physicians themselves have been shown to realize that excess of water, just as excess of food, adds to the excretory burdens of the body; that every superfluous ounce of liquid adds to the labors of heart and kidneys. Professor Von Noorden's conclusions, arrived at from experimental investigations on human subjects, confirm the belief that the restriction of liquids is

inevitably followed by certain consequences which are capable of being utilized for therapeutic purposes. By restricting the intake of water the stomach is relieved of much work and the pressure exercised upon its walls is reduced. The total labor performed by the circulatory apparatus is decreased and the heart is spared. The fluids of the body become more concentrated, and the body weight is decreased as a result of the dehydration of the blood and tissues. The appetite is reduced and the combustion of albumin is increased if the restriction of water is carried very far; but on the other hand, if carried on within the limits of physiological moderation, the combustion process going on in the organism, and in particular the combustion of fat, is not increased. These facts are capable of therapeutical application and should save many subjects who would otherwise suffer from the haphazard flushings.

It is sad to consider the many subjects of Bright's disease and the many victims of dilated heart and dilated stomach who have been encouraged to drink themselves to death, and the many obese subjects who have shortened their water-logged lives through unrestricted indulgence in unexhilarating beverages.

EDITORIAL NOTES.

Adulteration of Drugs.

The wholesale adulteration of foodstuffs is something that is pretty well known owing to the publicity that has been given it of late. The public is not, however, aware that a good deal of adulteration obtains in drugs. Dr. Wiley, in a paper recently published in an Eastern contemporary, says the fact that a properly written prescription may result in a concoction of a remedy much different from that required is a matter that cannot be ignored. According to Dr. Wiley these adulterations consist of: (1) Substitution—*i.e.*, providing an article entirely different from the one prescribed, or an article which may resemble the one called for in many of its physical, chemical, and therapeutic properties. (2) The degradation of the drug by adding an inert material, or extracting a valuable one so that its properties are impaired. (3) Drugs which are "misbranded." These are sold directly to the consumer without passing under the inspection of the physician. Among these

are practically distilled spirits of every description. In order to combat the prevailing suspicion concerning drug adulterations, every pharmacist should be taught the necessity of honor and honesty in his dealings, and be advised to buy and sell only pure and unadulterated materials.

Hygiene in the Laundry.

The French Council of State has recently issued a decree that no dirty linen shall be brought into a laundry except packed carefully in a sack or some other receptacle which can be absolutely closed during transit. If possible the dirty linen, together with its receptacle, must be disinfected before any sorting is done, or at least the linen must be wetted so as to avoid any dissemination of dust. In this last case the receptacles must be scoured or disinfected separately. Disinfection is obligatory in the case of dirty linen coming from hospitals or from any place where sick folks are received. Finally, the staff employed in the manipulation of the linen are to be supplied with overalls, which shall be kept especially for the work. Dirty linen must not be handled in the ironing rooms or in any other room in which clean linen is handled, and no article of food or drink is to be consumed in the rooms devoted to the handling of dirty linen. Similar regulations ought to be enacted in this country, where the handling of dirty linen is often a positive menace to those engaged in the work.

Modern Torture of Prisoners.

The methods pursued by modern police officers to obtain confessions from alleged murderers smack considerably of the tortures of the Spanish Inquisition. A San Francisco newspaper relates the case of a woman, suspected of murdering her husband, who was forced into the autopsy room at the morgue where the mangled remains of her husband lay and subjected to what is known in police circles as the "third degree." This process, which consists in jostling and taunting the victim, so affected this woman that she became insane. Doubtless many confessions are obtained from suspects by this method which are entirely false. The mental strain to which prisoners are subjected often leads them to confess to what the police suggest in order to escape from their tormentors.

Race Suicide in Europe.

The question of race suicide, of which we hear so much these days, seems not only to obtain in this country but in Europe as well. From a foreign exchange we learn that the birth-rate in the German Empire continues its downward course, being only 33.9 per 1000 in 1903, from 35.7 per 1000 in 1901. In Great Britain the birth-rate has fallen from 30.7 in 1893 to 27.6 in 1904. French statistics show that at present the birth-rate in that country is only 22 per 1000. It is hard to foretell what changes another century may bring forth in the world's politics if the birth-rate of Western nations continues to decline, and that of the Orient keeps up as high as it has in the past.

Bullets Instead of Money.

That medical men in this country often experience difficulty in collecting their fees goes without saying. From a foreign exchange we learn that a Spanish medico recently had a most unpleasant experience. He was called to attend a woman, and after treating her successfully he sent in his bills for services rendered. A few days later he was invited to call on a relative of his patient, who greeted him with two pistol shots and exclaimed, "That is how I pay doctors." One of the shots wounded the doctor in the chest and the other inflicted a wound in the head. The practice of medicine in Spain seems to have its drawbacks if patients show their gratitude in such a strenuous manner.

Free Consultations as to the Care of the Baby.

Through the efforts of a Spanish physician there have been established in Madrid free dispensaries where mothers of the poorer class can bring their babies every week for consultation with a physician. The mothers are given advice how to care for their children, and they also receive milk of a superior quality. In this manner many lives have been saved. It would be a good idea to establish such dispensaries in the slums of our crowded cities, where the infant mortality is so high.

ITEMS AND NOTES.

A MARBLE memorial of the late Prof. Giulio Bizzozzero is to be placed in the Institute of General Pathology at Turin.

A BANQUET was given in New York City May 29 to Dr. Thomas Addis Emmet, of New York City, in celebration of his seventy-seventh birthday anniversary.

THE Congress on Quackery, which was to have been opened in Paris on May 8 under the presidency of Professor Brouardel, has been postponed till April 30, 1906.

A PURE FOOD LABORATORY will be established in Boston within a few weeks by H. W. Wiley, chief of the Bureau of Chemistry of the Department of Agriculture.

THE *Deutsche medicinische Wochenschrift* states that the number of cerebrospinal meningitis cases in Upper Silesia in April was about 1200. The deaths are roughly given as half that number.

WILFRID GRENFELL, the young English medical man who has made it his lifework to administer to the fisherfolk of Newfoundland and Labrador, has been visiting the United States and Canada endeavoring to interest philanthropists in his mission.

DETROIT COLLEGE OF MEDICINE graduated a class of fifty-four May 5. Prof. Clarence A. Lightner delivered the address to the class; Sidney T. Miller, president of the board of trustees, conferred the degrees; and Rev. F. J. Van Antwerp made the closing address.

IN the Italian Chamber of Deputies recently, Professor Scellingo called the attention of the Minister of the Interior to the increasing prevalence of trachoma in Italy, and suggested that special departments for children suffering from the disease should be established in public schools.

THE friends, colleagues, and pupils of Professor Pozzi intend to offer him a medal on the occasion of his promotion to Commander of the Legion d'Honneur, and to celebrate his presidency of the Seventeenth French Congress of Surgery last autumn. The sculptor, Chaplain, has been asked to design the medal.

THE Reichstag reassembled May 10, after the Easter recess, and passed the first and second readings of the bill approving the international sanitary agreement signed in Paris, December 3, 1903, for fighting the plague and cholera. The United States is also a signatory to this agreement.

THE contract has been awarded for the construction of an island in New York harbor on which is to be built what is intended to be one of the finest institutions in the world for the treatment of contagious diseases. It is expected that the hospital, which is to be an addition to the immigrant station at Ellis Island, will be completed within two years.

THE Association of American Physicians elected the following officers at Washington on May 17: President, Dr. Frank Billings, of Chicago; vice-president, Dr. F. Kennicutt, of New York; secretary, Dr. Henry Hun, of Albany; recorder, Dr. Solomon Solis Cohen; treasurer, Dr. J. P. Crozer Griffith, of Philadelphia; and councilor, Dr. T. Mitchell Prudden, of New York.

LADY CURZON'S illness has already cost some $50,000, one-half of her husband's salary as governor-general of India. Several famous specialists, states the *New York Tribune*, have lived for days together at Walmer Castle with fees of $500 apiece a day, while each time additional medical attendance or even medicaments were needed from London special trains were engaged.

CHICAGO is the most healthful big city in the world, according to statistics furnished by C. St. Claire Drake, statistician of the Health Department. He shows that the duration of life in Chicago has increased 166 per cent since 1870. In that year the average age at death was twelve years, while in 1904 the average age was thirty-two—a gain of twenty years of life for the average Chicagoan.

THE Medical Society of Bad Nauheim has issued the third edition of a pamphlet on the nature and uses of the waters of that place, in which the indications for their employment are fully discussed. The same society has also issued a smaller pamphlet giving similar information in a more condensed form. Copies can be obtained on application to the Geschäftszimmer, Bad Nauheim, Hesse.

The city of Strasburg, Germany, says an exchange, is discussing the establishment of a central office to which physicians are to report all cases of tuberculosis among their patients. The central office will then search out the patients and see that they have proper food, etc., and sanatorium treatment. The expense is to be shared by the city and the state sickness insurance company.

In the discussion on the budget in the Italian Chamber of Deputies, Dr. Licata strongly urged the necessity of measures for the safeguarding of the public health, and especially for the prevention of infectious diseases. Recalling the resolutions passed by several congresses on the need for sanatoriums for sufferers from tuberculosis, he expressed a hope that the government would make adequate provision for the purpose.

It is reported by an Eastern contemporary that Prof. Ludvig Hektoen, before the American Association of Pathologists and Bacteriologists, suggested withdrawing a portion of the cerebrospinal fluid from the spinal cord and injecting in its place pure serum taken from human blood, thus securing immediate phagocytic effect. Although the treatment has not been tried upon human beings as yet, Dr. Hektoen says he has experimented successfully with animals, and has effected numerous cures, which he believes are permanent.

Among the members of the medical profession in foreign countries who have lately died are Dr. Alberto Costa, inspector-general of the sanitary department of the Argentine army, and one of the founders of the School of Military Sanitation, Buenos Ayres; Dr. E. Garcia Duarte, professor of external pathology in the University of Granada; Dr. Andreas Kornhuber, professor of zoölogy in the Vienna Technical High School, aged eighty-three; and Dr. Edward Himmel, of Vienna, a specialist in children's diseases of considerable reputation, aged fifty-eight.

Illinois will adopt the scientific treatment of tuberculosis advocated by her most prominent physicians. It is said that Governor Deneen will sign the bill finally agreed upon between the House and Senate, and which has been passed. The appropriation for a tuberculosis sanitarium originally provided for in the bill was $50,000, but after passing the House the bill encountered opposition in the Senate. Finally, after the governor had shown active interest in the bill, it was amended to reduce the appropriation to $25,000, and it passed the Senate. The House concurred in this amendment by a vote of 112 to 0.

It appears, says an exchange, that in the year 1890 the late Honorable H. Mercier, then Prime Minister of the Province of Quebec, had a law passed by the provincial legislature granting one hundred acres of the public lands to each father and mother of twelve living children, and last year a return was made to the house of those who had taken advantage of this act. This return shows that there were more than 3400 families of twelve living children in the province, while some boasted of seventeen, eighteen, nineteen, and one even ran up to twenty-three. According to the last report of the provincial compiler of vital statistics—that is to say, for 1903—60,419 births were registered, which gives a birth-rate of 36.75 per 1000 of the population.

May 9 was celebrated by the Germans abroad and in this country as the hundredth anniversary of the death of Friedrich Schiller, the great poet, dramatist, and historian. It is not, says an exchange, generally known that he commenced his career as a regularly graduated physician. The *Deutsche med. Woch.* has been collecting data in regard to his work as a physician, and reviews his medical writings and teachings. He was a pupil of Boerhaave, and was imbued with the "humoral" doctrines of the day. The general conclusions of Magnus's article on the subject are to the effect that neither the science of medicine nor Schiller himself seems to have derived any permanent benefit from his connection with medicine. He soon abandoned it.

According to M. Guillaume Capus, the population of the town of Khokand, in Turkestan, consists for the most part of sufferers from goitre and cretinism. The traveler entering the town is at once struck by the fact that nearly every person he meets is the bearer of a more or less voluminous goitre. Khokand is the only place in Turkestan in which such a state of things exist, and there appears to be nothing in the place or its surroundings to account for the prevalence of goitre and cretinism. Its sanitary condition, says the *Medical Record,* is satisfactory. The town is situated at a height of 1300 feet, and is abundantly supplied with water from a river which, like the others in the same region, comes from the Alai Mountains. When the Russian troops occupied Khokand in 1875 the medical officers noted that a tenth of the garrison became affected with goitre after a few months' stay. The tumors yielded to the iodine treatment; nevertheless it was decided to abandon Khokand and to transfer the headquarters to Marghillan.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Studies on the Pathology and Etiology of Obstructive Hypertrophy and Atrophy of the Prostate Gland.

P. M. Pilcher (*Annals of Surgery,* April, 1905) summarizes his views as follows: (1) Pathologically there are three types of prostates causing urinary obstruction: (*a*) The large, soft type; (*b*) the hard, small, contracted type; and (*c*) the mixed type. (2) Infection does not influence the variety of the pathological change. (3) The contracted form of prostate is not a secondary stage of the large, soft type of hypertrophied prostate, but is distinct from it. (4) In many cases of hypertrophy of the prostate there is present a true muscular hypertrophy. (5) In some of the atrophic cases the glandular element is diminished and the muscular elements relatively increased. (6) Gonorrhea is not an important etiological factor in the production of this disease, and there is no necessity for assuming it to be. (7) The theory of obstruction to the ducts causing passive dilatation of the glandular elements as advanced by Ciechanowski and Crandon does not satisfactorily explain the pathological findings. (8) Hypertrophy of the prostate results from glandular overgrowth, influenced by the degenerative changes of old age, and other agents which tend to produce the formation of fibrous connective tissue in an actively functionating gland.

Prostatectomy.

R. Harrison (*Medical Record,* May 13, 1905) says of perineal prostatectomy that he believes it of limited applicability and adapted principally to partial removals of the gland. Freyer's operation of supraprostatectomy is considered the operation of choice in the majority of cases, some of its advantages being that it may be completed with a knife aided by the fingers in a very few minutes, and that the bladder and prostate are approached from their most accessible position, where there is little or no danger of encountering hemorrhage or of permanently damaging the sphincter or retentive apparatus of the bladder. The drainage

provided is free, so that secondary strictures need not be feared, and any calculi present are sure to be detected and removed. Partial supraprostatectomies have not proved on the whole successful. In regard to the mortality attendant upon the two types of operation, the author believes there is not much difference between them, and he puts it, including all causes of death, at about ten per cent.

Rectal Abscess Containing Gonococci Without Accompanying Gonorrhea.

F. R. Sturgis (*Medical Record*, May 6, 1905) reports the case of a man who had gonorrhea six and a half years previously, and three years later developed an abscess of the epididymis associated with a perineal abscess which apparently came on spontaneously. When seen by the author three and a half years later he was suffering from a periproctitic abscess discharging pus, in which two examinations revealed diplococci presenting all the morphological attributes of the gonococcus.

MEDICINE.

Immunity.

In the fourteenth chapter of the special article on "Immunity," the *Journal of the American Medical Association* of April 29, 1905, discusses the simplicity of hemolytic experiments and the rapidity with which they may be performed and terminated. The corpuscles for such experiments are obtained by the defibrination of freshly drawn blood and the removal of the fibrin. Usually they are made in a five-per-cent suspension by dilution with isotonic salt solution. The five-per-cent emulsion or the undiluted blood is centrifugated, the overlying fluid drawn off by means of a pipette and substituted by fresh salt solution. The corpuscles are then thoroughly mixed with the new solution, and the process of centrifugation repeated. The experiments of Bordet showing the analogy between bactericidal and hemolytic serums are considered, and the studies of Metchnikoff, Ehrlich, and Morgenroth are also referred to. The absorption of amboceptors by cells is fully discussed, and the experiments are described in detail. It is stated that when microörganisms gain entrance to the body they are killed and dissolved into consider-

able masses, and that as a result of this certain bacterial constituents reach the circulation, and among them are molecules or receptors which possess haptophores capable of uniting with a particular type of amboceptor, the latter being an integral part of some tissue cells. This union having taken place, an affinity for circulating complement may be created as in the test-tube experiments.

This chapter concludes by stating that inasmuch as the heat resistant body alone is increased during immunization or infection the greater part of the specificity would seem to depend on the nature of the amboceptor rather than that of complement. No theory except that of Ehrlich offers at present a tangible explanation of this feature.

Aerophagia and Flatulence.

G. D. Spivak (*Medical Record,* April 29, 1905) gives an extended account of the etiology, symptomatology, etc., of this habit, which is analogous to the vice of horses known as cribbing or wind sucking. Two varieties are to be distinguished, voluntary and involuntary, the latter occurring as a rule during attacks of hysteria. From a study of the literature and of his own cases the author arrives at the following conclusions: (1) Swallowing of air in small quantities is a normal phenomenon. (2) Abnormal swallowing of air may be voluntary (hysteria) or involuntary (dyspepsia, idiopathic). (3) Air may enter the stomach by swallowing, aspiration, or gulping. (4) Cases of aerophagia are not as rare as the earlier writers used to think. (5) Aerophagia, although at the beginning it makes "much ado about nothing," is as a rule a sequel to some other affection, yet when let alone it may in its turn produce grave symptoms and undermine the health. (6) Aerophagia, tympanites, nervous eructation, pneumatosis, and merycism have an etiological relationship. (7) The best treatment in voluntary aerophagia is to impress the patient with the fact that he can stop it if he will.

Ductless Glands and Internal Secretions.

E. Blum (*British Medical Journal,* April 2, 1905) argues that the thyroid gland and the suprarenals do not, as is commonly supposed to be the case, form a secretion which passes out into the blood, but that they serve only to remove poisonous

substances already present in it. They thus have no internal secretion, but are glands for purifying the blood. He endeavors to prove this experimentally by tying the veins, leaving these glands, in the dog. This is easily done in the dog's thyroid, and leads to disturbances of the animal's metabolism; the N. and P. excretions increase, although the input of food is diminished for some days; this is what happens in Graves's disease. He believes that Graves's disease is due to deficiency in the "thyreo-toxalbumen" normally formed by the thyroid, and not to the thyroid hypersecretion usually stated to occur. The experimental difficulties of tying the suprarenal veins have not yet been overcome. The author argues strongly against the view that these glands have any internal secretion. Ligature of the veins of the spleen causes much injury to the cells of the liver, as though the tied-off spleen failed to remove some toxic substance from the blood. A picture recalling Banti's hepatic cirrhosis is produced.

Typhoid Fever in Relation to the Urban and Rural Population of the United States.

S. Egbert (*American Medicine*, April 22, 1905) shows by reference to the United States Census Report on Vital Statistics for 1900, and by means of graphic charts illustrating the numerical data of this report, that typhoid fever is much more prevalent in the rural portions of the country. He attributes this high incidence of the disease to the unsanitary conditions prevalent in the many towns and villages that, being under 8000 in population, are too small to be classed with the urban and which therefore make up a large part of the so-called rural population. He concludes: (1) Popular education as to the causation and dissemination of typhoid fever and similar maladies is especially important in the localities and districts indicated by the charts. (2) It is the duty of physicians to impress upon their typhoid patients the importance and necessity of disinfection measures, not only during but also long after convalescence. (3) The profession should urge improvement, purification, and care of public water-supplies, and should induce those depending on private or suspicious sources to protect themselves against the danger of infection. (4) The profession should work for uniform and satisfactory registration laws and methods, as these always reflexly foster improvement in sanitary conditions.

Etiology of Tuberculosis.

Volland (*Münchener med. Wochenschrift,* xx) agrees with Behring that pulmonary tuberculosis is not disseminated by the inhalation of the tubercle bacillus, but that the cause as a rule originates in childhood. He states that a primary tuberculosis is rare in an adult. The author says that the specific organism does not primarily invade the lungs, but enters through the lymph stream and blood. The infection at first manifests itself as scrofula. The author found out of 1352 children between seven and fifteen years of age, 1271 with enlarged cervical lymph glands.

Chronic Affections of the Lungs and Heart Disease.

D. Rothschild (*Berliner klin. Wochenschrift,* xlii, No. 13) calls attention to the immunity to tuberculosis conferred by mitral stenosis. The congestion of the lungs caused by this lesion acts similarly to Bier's passive hyperemia and prevents the development of secondary tubercles. If a mitral lesion occurs after tuberculosis has developed, the conditions favor the cure of the primary lesion. Tuberculosis has no influence toward preventing a cardiac defect. Kryger found only 10 in 1100 tubercular cadavers with heart defects, whilst he found 59 cases of healed tuberculosis in cadavers with marked heart lesions. Cardiac defects appear to favor other lung affections besides tuberculosis.

Drying Bacteria for Preservation.

Hein (*Zeitschrift für Hygiene,* Bd. 50) recommends the preservation of bacteria in the dry state in order to retain their virulence. In his experiments he immersed silk threads in the various cultures, and then dried them in a desiccator over calcium chloride or phosphorus anhydride, and preserved them in sterile glass tubes in a dark place. Pneumococci in the blood were preserved in this manner for fifteen months, and at the end of that time were found to be virulent. The author recommends this method in medicolegal cases where post-mortems have been held.

Experiments in Replenishing Blood.

Kutterer (*Beit. für klin. Chirurgie*) experimented on guinea-pigs to determine how great a loss of blood is necessary to prove fatal with certainty. He found that a guinea-pig deprived of

three per cent of its body weight of blood would not live; normal physiologic salt or other solutions would not prolong its life until a regeneration of the blood elements took place. Oxygen administered for three hours gave the best results, one animal losing 3.52 per cent of its blood and recovering. The author advises in case of severe hemorrhage the administration intravenously of two liters of physiologic saline solution that has been saturated with oxygen, as well as inhalations of this gas.

THERAPEUTICS.

Treatment of Gonorrheal Arthritis by Hyperemia.

J. Von Tiling (*Journal of the American Medical Association*, April 29, 1905) has secured excellent results from Bier's method of damming back the circulation with elastic bands in several painful cases of gonorrheal arthritis. He advises the use of a thin, pliant rubber bandage applied so as not to cause discomfort, but sufficient to produce very perceptible hyperemia. Blueness and coldness of the limb, white or vermilion spots, and pain or paresthesia indicate that the bandage is too tight and should be loosened. Properly applied, the most marked first effect is relief of pain, but this is not all; damming he claims has a bactericidal effect, and dissolves away the adhesions, which are completely removed by massage after the removal of the bandage. At first the bandaging should be of short duration, a few hours at a time, but later it should be increased until it reaches ten hours a day and ten hours at night. After removal of the bandage, massage lightly, then have the patient stand and move the joints. He claims that this method gives better results in most cases of gonorrheal arthritis tending to stiffness of the joints than any other.

Sodium Bicarbonate in Hemorrhage.

P. M. Dawson (*British Medical Journal*, April 22, 1905), using dogs for the purpose of his experiments, has investigated the cardiovascular effects of intravenous infusion after severe hemorrhages of solutions containing sodium bicarbonate. He finds that whereas sodium chloride alone has the immediate effect of raising blood-pressure, with the addition of sodium bicarbonate to the chloride solution the rise in pressure is markedly

increased. Dawson suggests that in some extreme cases of shock due to hemorrhage the addition of from ½ to 1 per cent of the bicarbonate to a 0.8-per-cent sodium chloride solution may be of advantage in two respects. In the first place the rise in all the pressure, but especially in the diastolic pressure, is more pronounced than when the pure chloride is used; and secondly, the quantity of fluid required is smaller than is the case with the pure chloride; the greater, therefore, is the rapidity with which the solution can be hurried into the circulation—a matter which may be of importance in desperate cases. There is, however, one possibility which ought not to be overlooked in the employment of bicarbonate, namely, the danger of overworking the heart. From experiments not yet concluded Dawson finds reason to believe that very strong solutions of sodium carbonate and bicarbonate act very powerfully as cardiac stimulants. Before employing the bicarbonate, therefore, in cases of hemorrhage, the physician ought to decide whether a cardiac stimulant is or is not contraindicated.

The Treatment of Appendicitis.

Maragliano (*Gaz. d. Osped.*, March; *British Medical Journal*, April 22, 1905) pleads strongly for operation in every case of appendicitis, no matter what stage the disease is in. When one considers the large variety in type in cases of appendicitis, the possibility that even a mild case may suddenly change within a few hours or less, and become alarming, he considers operation is the only logical treatment. Those cases which would have got better if left alone are none the worse for operation, and some of the cases which are lost from too late operation might be saved. He, of course, recognizes the fact that a very large number of cases of appendicitis get perfectly well under medical treatment, and that some of these may be successfully operated upon in the quiescent stage—that is, after the acute symptoms are past. But, on the other hand, if one waits until the acute symptoms have subsided there is no doubt some cases will never survive, and the chances of operation have gone by forever. Moreover, under his teaching no one need ever lament that surgical aid has been employed too late; on the other hand, he is perhaps too optimistic as to the practically harmless nature of the early surgical interference he advocates. Further, he suggests that the control of the question of operation should

be left entirely to the physician, who on his part should obtain surgical assistance in every case of appendicitis as soon as it is diagnosed, and insist on immediate operation.

Prophylactic Typhoid Inoculations.

W. Kolle (*Deutsche med. Wochenschrift*) has shown that all cultures of typhoid do not have the same immunizing effect. Wasserman lays great stress on the binding power of the culture. He does believe that the power to produce bacteriolysins runs parallel with the virulence, but that it is in direct ratio to the capacity of the culture to neutralize the specific amboceptors of a serum *in vitro*. One-fifth to one-tenth of Kolle's culture confers immunity on a guinea-pig. For the human the dose is one, two, and three loops, at intervals of eight to ten days. During the first days after the inoculation there is a transient lowering of the bactericidal power of the blood. A total of 2000 men in the German army voluntarily submitted to these inoculations. The agar cultures used were incubated for twenty-four hours, mixed with an equal quantity of physiological saline solution, and heated to 60° C. for one hour; they were then tested as to their sterility, and 0.3 per cent carbolic acid was added.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Measles in Pregnancy.

D. Cerf (*British Medical Journal*, April 22, 1905) discusses the occurrence of measles in pregnancy and the effects which this disease produces at different periods. Measles occurring in a pregnant woman is always dangerous, abortion occurring in 60.3 per cent of all cases. This usually occurs at the fifth month in 50 per cent of cases. The more advanced the period of pregnancy the greater danger there is of abortion, and after the seventh month the proportion of premature births is 80 per cent. An attempt has been made to establish some relation between the appearance of the exanthem and the commencement of labor, it being supposed that the former reaches its height simultaneously with the birth of the child. In the opinion of the writer,

there is much variation in the onset of labor and the appearance of eruption. It would seem that the toxemia of measles has a very marked stimulating action on the uterine muscle, as in the majority of cases parturition is rapid, lasting from four to six hours. The writer even quotes cases occurring in his own practice in which parturition was completed within an hour. Usually speaking, postpartum prognosis is good, it is uncommon for the patient to suffer from any complications, and the course of the puerperium is unaffected.

Etiology of Eclampsia.

A. Dienst (*Centralblatt für Gynäkologie,* xxix) suggests that the etiology of puerperal eclampsia is due to a pathological communication between the circulation of the mother and the fetus. He injected the umbilical cord immediately after delivery in 160 cases, and found out of the 160 women so treated that one-fifth evidenced a blue urine. He also experimented with mixtures of the blood of mothers and fetuses in 118 cases, and found that in 24 the maternal blood agglutinated or dissolved the blood of the fetus. He proposes that the origin of eclampsia is that the heterogeneous fetal blood transfuses into the maternal circulation through an abnormally permeable placenta.

Methods of Inducing Labor.

B. C. Hirst (*American Medicine,* May 6, 1905) says that in 217 cases the bougies were found about as efficient as the bags, in four-fifths of the cases both plans giving about the same results. In a fifth of the cases something else was required to bring on labor with both methods. Hirst proposes the use of Bossi's dilator at the end of twenty-four hours, dilatation to 7 centimeters, and the use of forceps or podalic version, in case the bougies had not instituted efficient pains by that time.

THE MEDICAL AGE

Vol. XXIII. DETROIT, JULY 10, 1905. No. 13.

ORIGINAL CONTRIBUTIONS.

THE PREVENTION OF VENEREAL DISEASES.

BY NOAH E. ARONSTAM, M.D., PH.G.,

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When casting a critical glance upon the immediate effects, the remote consequences, and the host of definite and indeterminable lesions which may follow in the wake of the various venereal diseases, it may be stated that the latter not only affect their unhappy carriers, but may also entail endless suffering, misery, and physical, social, and moral encumbrances upon their descendants for generations to come. Specific urethritis has repeatedly given rise to a legion of gynecologic affections, transmitted from husbands to healthy, chaste, and morally irreproachable wives; it has ushered in diseases which have finally culminated in death. Such husbands ought to be regarded as criminals by every conscientious person in whom a spark of justice is left to regard these events in their true light and from their proper aspect, devoid of the attenuating paint of conventional lies. The only mitigating feature of specific urethritis and the infectious venereal ulcer (chancroid) is that they in the majority of instances fortunately leave but a local imprint upon the tissues invaded, without becoming constitutional. That does not preclude the possibility of gonococcic urethritis attacking other organs and structures of the human economy, as for example the serous surfaces of the joints, the pleura, pericardium, peritoneum, etc. Still, these manifestations or morbid states are rather due to a predilection of the gonococci for the serous surfaces of the body. Syphilis, however, spares no organ or structure; wherever the syphilitic toxin gains access, it engenders a vulnerability of the tissues, and creates a favorable soil for the establishment of lesions which may prove dangerous in a great

number of instances. The author refers to the so-called tertiary stage. The virus of lues *per se* is identical with that of the other exanthemata as far as its *immediate* effects are concerned; but its dangers lie in the tertiary, neoplastic, or connective tissue formations it may remotely produce, and which may prove eventful in a number of instances. Were the individual alone to suffer, we might say forbear; but knowing that the offsprings in subsequent generations are also apt to bear the brunt of the sins of their progenitors, it would seem that it is high time to seek for measures to prevent the spread of such formidable maladies as syphilis, gonococcic urethritis, and the contagious venereal ulcer, and to obviate the far-reaching sequelæ that are apt to follow.

Then, again, were the defects merely physical and limited in their extent and the prevention of individual usefulness, they might be regarded as a great number of other affections are—indifferently. But the fact is that a large majority of cases that belong to the hereditary form of syphilis, if they survive the first years of life, invariably show in after life the stigmata of degeneracy, and thus develop into moral and intellectual cripples, falling a charge to the state and furnishing not an inconsiderable quota to the large number of insane and criminals committed to our insane and penal institutions. For every one must confess that the victims of hereditary syphilis are afflicted with the stigmata of some mental or moral abnormality.

Syphilis is a wide-spread disease, one of the most prevalent and insidious in the province of venereal disorders. Still, it is not exclusively a venereal affection, since it may be contracted extrasexually from such utensils as household appliances, public drinking cups, towels, combs, tooth-brushes, pipes, wash-basins, and numerous other objects in daily use (happily, the indirect or mediate form of infection is comparatively rare). It lurks everywhere: your best friend may impart it to you unconsciously, ignorantly. The husband may communicate it to his wife conjugally, and the father may give it to his child in the form of a kiss. It is just as dangerous, if not more so, to the surroundings of healthy persons as is tuberculosis, and still the latter has received more attention from a prophylactic point of view in the last decade than syphilis has for the past century. The reason for this criminal neglect the author will venture to explain in the succeeding pages.

Let us first view the various predisposing and exciting causes giving rise to the different venereal maladies. Some of them

have been enumerated above. The exciting causes comprise the acquisition of these diseases in a sexual manner, and those accidental infections contracted in a non-venereal way—*i.e.*, through intermediate objects, already indicated. The predisposing causes are, however, of vastly greater importance, since they pave the way for the entrance of the exciting agency. The predisposing factors may be classified as follows:

1. Social strata.
2. Methods of education.
3. Promiscuous and unguarded reading.
4. Unesthetic and suggestive dramatical productions.
5. Unrestricted and faulty pleasures and amusements.
6. Indulgence in alcoholic beverages.
7. Inability of matrimonial relations.
8. Ineffective attempts at the regulation of prostitution.
9. Abetting and criminal disregard of the police in matters pertaining to the regulation of libertinism.

As to the first of these causes, it may be said that it is not only the lower strata of the populace which furnish the greater contingent of those contracting venereal diseases, but it is also found in the so-called "higher social" ranks, and, it would seem, with greater frequency than among the first mentioned class. Of course, we cannot deny that it is the sad privilege of the lower social grades to suffer from venereal affections. But when we critically examine the social status of the sufferers, we are forced to admit that these diseases are comparatively more predominant among the higher social strata. This is explicable on the ground that, being endowed with all the resources that wealth and social position are able to offer them, and surrounded by luxuries and cultural trivialities, they are not altogether loath to empty the goblet of pleasure to its very bottom, while on the other hand the poverty-stricken, slum-dwelling, hard-working individual is too tired or too preoccupied most of his time to drain the scant cup of pleasure which his environment and limited position are capable of offering him. The better situated person is constantly reminded of pleasures sexual either through reading or social intercourse, and besides has the means of satisfying his sexual appetite in houses of ill-repute; his socially and perhaps educationally inferior fellow man, however, does not possess these various inducements to assist him in the consummation of his desire.

2. *Methods of Education.*—The system of education in vogue now is more conducive to the premature establishment of sexual

proclivities than all the predisposing factors combined. The system of cosexual public school education as practiced in this country is a potent source of engendering desires and inclinations which must be gratified sooner or later. This is either accomplished in the libertine resorts, or else, if this be impossible, the young man—and occasionally the young woman—has recourse to another means whereby to gratify this arising tendency, namely, masturbation. The cosexual system of education is not alone the spurring rod in the precocious awakening of the dormant sexual instinct, but opens also the path to numerous other well known and remotely possible deviations from the normal standard. That this factor could easily be abolished and the evil remedied goes without saying, as it is fortunately a remedial cause and could be accomplished with little effort on part of the authorities by stopping these experimental and theoretical implausibilities of *elementary* coeducation at least. There is one thing certain, and we might almost say absolute, in its truthfulness, viz., that the commingling of the sexes in schools during early youth, especially when the supervision is lax and inefficient, may lead to the inception of improper acts —acts which do not end there, but find a perpetuation in some brothel.

3. *Promiscuous and Unguarded Reading.*—The close of the last century and the beginning of the current have been instrumental in ushering into the reading world innumerable literary creations of a very inferior kind. It is absurd to call them literary, almost a transgression against the majesty of literature. They are low-grade, morally inadequate, highly sensual and perverted productions, which should be relegated to oblivion, instead of being continually revived in the form of new editions. The fair sex is pictured therein in its enticing, voluptuous, physical nudity; its moral tone is lowered *ad absurdum* and its dignity and virtue reviled and undervalued. In short, it is depicted as a body-bartering and morally degraded sex. And how these books are sold! By thousands and tens of thousands, never ending. And who are the readers? Young men and women, who devour these writings with a greed almost suggestive of bodily hunger. It is needless to mention the names of these authors, for every one is aware of them and the evil trace they leave behind. It seems that the present age is longing for morbid and perverted writings. And what are the immediate effects of these books? An uncontrollable sexual desire, a mind filled with lewd pictures and with scenes of obscenity. The individual

is prompted to realize these sexual musings; and, of course, some lax female, a clandestine or an inhabitant of a body-bartering house, must meet this imperative longing. This is a vital cause and should be considered by every one concerned in educational matters.

4. *Unesthetic and Suggestive Dramatical Productions.*—Our contemporary drama is a hotbed of sensuality. In place of conveying a message of social improvement and enhancing the morale of the individual, it is productive of inculcating pernicious principles and assists in promoting a morbid tendency in matters sexual, as well as in affairs of every-day occurrence. The young, impressive mind will absorb the so-called "heroistic," which the populace has such high regard for, and this "heroism," or whatever you may call it, smooths the path for inclinations which are not within the immediate and possible sphere of the young man or woman. It is remarkable how morbidly fascinating these thunder, murder, and bombastic dramas are for a certain class of people. They would rather witness one of these than the best classical productions of the past or our own age. The mental picture thus established in the youth clamors for realization and opens new channels for diversion and forbidden pleasures, which not infrequently become the nidus, the starting-point, for the entrance of the varied venereal diseases.

5. *Unrestricted and Faulty Forms of Amusement.*—One of these in the estimation of the author is dancing. He believes that this particular kind of pleasure or recreation has a strong sexual basis. The close contact with the fair sex during the Terpsichorean whirl, the consequent excitement which it induces, urged by preconceptions and vivid mental pictures and scenes of lewdness, the studied exhibition of the feminine forms on her part, favored by dress, pose, and attitude, the unconscious or voluntary show of coquetry—all of these are factors potent enough to act as predisposing causes of moment in the production of the diseases under discussion.

6. *Indulgence in Baccho.*—This in an evil of which large volumes pro and contra have been written. It is not the writer's intention to dwell on it at length. He is not a fanatical antagonist of the moderate therapeutic and dietary administration of alcoholic and malt beverages in indicated cases. He wishes to state, however, that spirituous liquors in the hands of the irresponsible and those having a hereditary taint may constitute a sufficiently strong predisposing agent in inflaming passions,

which could be kept within the bounds of moderation or control under ordinary circumstances. The adage "Sine Baccho et Cerere frigit Venus" may very appropriately be applied in this connection. A judicious regulation, a partial abridgment, of the liquor traffic is not only morally beneficial, but may also serve as an active sanitary and prophylactic measure in the eradication of certain diseases, or at least may do good in minimizing their seriousness, and in curtailing their development and unfavorable sequelæ.

7. *The Inability of the Individual to Enter the Matrimonial State.*—This factor is rather an economic one, and a problem which so far has baffled the most strenuous efforts of sociologists and legislators the world over. Remedy after remedy has been advanced, to be very speedily discarded as inexpedient and impractical. Legislators went even so far as to impose certain pecuniary fines on bachelors, but with the result of ridicule and an ultimate "dead letter" statute in the gigantic mass of so-called laws. For it is futile to legislate against this economic problem. To be just, it would seem that this state of affairs is justifiable in face of the many conditions which furnish an insurmountable barrier in the way of a successful matrimonial alliance. The inability of maintenance or of a life competence in these our vacillating times should be steadily before our eyes. Family life makes greater demands on the individual than the single state. The responsibilities are many and great. A conscientious person will at all times refrain from entering matrimony if he knows that his competence is not enough to support a wife and possibly a family. It is a vital economic question, an obstacle not so easily removable, a problem utterly disregarded by our so-called philanthropists and world reformers. It forms a predisposition of no mean degree in the inauguration of venereal affections. The individual cannot disregard the impulsive voice of nature, and not infrequently falls a prey to the ravages, both remote and immediate, engendered by these disorders.

8. *Ineffectual Attempts at the Regulation of Prostitution.*—A large body of men whom the people have *elected,* not *selected,* to shape the destinies of a state are repeatedly heard to debate over hair-splitting subtleties and mind-rending technicalities. They will fight and squabble over measures which have no direct bearing upon the welfare of the commonwealth; they are known to create laws which are exceedingly euphonious but highly impractical in the present exigencies of our civilization. We behold them meddle with institutions of which they are totally

ignorant; we hear them time and again discuss questions of moment, questions of the intrinsic merits of which they know nothing; we merely hear a word-play, a phrase tourney, nothing but insignificant and empty words, as far as their utility for the people is concerned. Instead of wasting precious time and money, in lieu of burdening the people with irrelevant and "dead letter" laws with very little justice in them, let them endeavor to fight against a pestilence, against a social evil, a hotbed of disease, misery, and untold suffering. The regulation of prostitution is a problem demanding the undivided attention of legislators and sociologists. Let them assemble and look for means whereby to minimize the danger of the spread of venereal diseases. By doing so they will not alone obviate disease and wretchedness in the individual, but will also form the foundation for subsequent healthy generations. With the regulation of prostitution, and not by abolishing it, they will materially diminish the number of insane asylums, they will reduce the figure of criminals and the inevitable penal institutions, and thus save the state not only countless lives but also uncountable millions of money. Faulty regulation of libertinism has been and will be the most favorable predisposing agent in the causation of syphilis and venereal diseases. The author sincerely believes that with proper and efficient regulation of prostitution the danger of contracting these various maladies will be perceptibly minimized, if not actually rendered *nil*. We shall discuss this more in detail in dwelling on the prophylactic measures to be adopted in stamping out these diseases.

9. *Abetting and Criminal Disregard of the Police in Matters Pertaining to the Strict Regulation of Prostitution.*—Unhappily, the state and the custodians of the law are enhancing the spread of these disorders by aiding and abetting the abominable and repugnant sale in flesh. True, the police have certain rules and local option laws regulating and controlling prostitution. But while with one hand they rigidly insist on a thorough examination of prostitutes and their segregation, they will with the other hand abet and assist houses of ill-fame in all manners possible. Thus certain districts are not permitted to harbor brothels, which is indeed very commendable, while other districts have the privilege to maintain such resorts, wherein thorough and painstaking examination is exacted. Then, again, we find districts and houses of ill-fame wherein no examination or regulation is exercised, nor is the same demanded, and which is neither commendable nor salutary—this with the full knowledge of the police

and their entire sanction, because these places perchance happen to be within a less slummy or within a more fashionable section of the city, if you please. They are the so-called aristocratic libertine territories. No examination is required, and if required is unscrupulously conducted by unscrupulous individuals who style themselves physicians. We also meet with places, only known to the initiated, which are apparently semirespectable places to judge from their exterior and their location, but in the interior of which debauchery and lust reign supreme and the pathogenic germs hold high carnival. No examination is demanded, for the police exact for this privilege a special remuneration—an honorarium, if this sounds better. Why in one populous district prostitution should be tabooed, while in another not less populated one it should be permitted, is beyond the knowledge of the author. Why so-called "plebian" resorts should receive active supervision, while "aristocratic" or fashionable places should be laxly dealt with, is also a matter to be ascertained. The only plausible explanation thereof is the dishonesty and corruptness of some police officials, who for the sake of a small monetary consideration will go so far as to ignore the law and thus give rise to the dissemination of venereal affections.

A word again about the surreptitious methods of the examining physicians. Recently the author had a conversation with one of these gentlemen as regards the methods of procedure in examining prostitutes. "Do you use the vaginal speculum in examining them?" he asked. "Speculum!" the other ejaculated highly surprised, "My speculum is my index-finger." A very thorough way of examining for venereal diseases! Another remarked that he seldom, if ever, examines; he neither uses speculum nor the finger, not even a cursory ocular vulvar inspection. He merely signs the certificate, and that is the finale of the affair. These lax, unsystematic, and corrupt methods of regulating libertinism form no mean predisposing factors in the causation of the aforementioned diseases.

The causes have been enumerated; the remedy should now engage our attention. Even the tyro in therapeutics knows that to treat the evil effectively we need but to remove the cause giving rise to the malady. To prevent a morbid condition making itself manifest, it is but necessary to prevent the causes which are apt to precipitate or induce it from gaining access and exercising their baneful influence. Some of the above mentioned predisposing causes cannot be removed, since to do so would

mean to completely change the social and economic state of countries and people, which would indeed be a Utopian undertaking, and only possible in the world of dreams or in an ideal land existing nowhere. The time is not yet ripe for the advancement and furtherance of these high sociologic conceptions. Inequality of society is in accordance with the law of evolution, and is merely an effort of the fittest to assert itself. Hence we are forced to regard the first cause—the diversity of social strata —as an irremediable one, an obstacle, inevitable and irresistible. But those causes which lie in the sphere of possible abolition we must endeavor to remove; they must cease to act. Among these, that of coeducation is one of paramount importance. It is in the author's opinion a very significant cause, though posing as a valuable adjunct to education; in reality it is an insidious factor, inimical to the moral development of our youth. There are undoubtedly many who regard coeducation feasible and justified; they are optimistic enough to place much weight in the coeducation of the sexes, not seeing the dark side of this procedure, however, but only viewing the bright and sunny aspect of its possible good-producing qualities. But let them not be mistaken. There lurks in the coeducational system a hydra-headed serpent, which will eventually help to undermine society, if not stopped in time. By inaugurating separate schools for both sexes we would materially reduce the danger of social degeneration.

It would be impossible to curtail the output of inferior literary productions, nor can we control or prevent them from gaining access to the reading world and poisoning the good taste and moral tone of the readers. It is only through education that this can be accomplished. The school and the parents must act unanimously in order to eradicate this evil, and thus barricade the path to the invasion of the various social evils.

The same holds good of the suggestive and unesthetic dramatic performances. It is again the school and the home which can exercise a restrictive influence upon the progress of this undermining factor. Then again municipalities, or the fathers thereof, the city councils, may greatly aid in this matter by adopting ordinances regulating the distribution of posters and announcements. Stuck to every wall, painted on every fence, and attached to every available space we find obscene, ludicrous, and suggestive advertisements and notices. It is the duty of every city to inculcate the principles of esthetics in every one of its inhabitants. But to the shame of a majority of our cities we

find that this unlimited detestable advertising is running rampant, and this with full sanction of the city authorities. It is for them to help to remove an evil which if not actually conducive to the contraction of venereal affections, is at least a factor in lowering the good taste of the citizens of every community.

To this category also belong the pamphlets and brochures which are distributed broadcast over the country by charlatans or quack firms, and by quasi-medical concerns, and wherein maladies are depicted which should only be known to the physician. In these pamphlets the various venereal diseases and sexual neurasthenias are described in an exaggerated, repugnant, and obscene form; these pamphlets are usually read by the youth of both sexes, vague ideas are acquired, and ambiguous conceptions are entertained as regards the true nature of the various sexual diseases. And not only this, but also perversions are gradually created in the mind of the individual, perversions which may culminate in sexual morbidities of a pronounced type, wherein not only the somatic profoundly suffer, but where also the psychic element plays an important rôle. This is indeed one of the most obnoxious predisposing causes. Let legislatures and city councils adopt laws whereby to limit, if not actually to stop, the spread of these agencies. But what can a city council or legislature do if it is solely prompted by insincere, selfish and corrupt motives? It is education only, and nothing else, scientific suasion, which will make halt to these predisposing causes.

Against faulty or unrestricted amusements and pleasures we have no remedy but the home and the school again. It is not so much the fault of the sons and daughters of parents as of the latter themselves. Too early in life do they allow the children to make their debut to earn their own sustenance. Engaged constantly at the desk, or slaving away their youth and ambition, and not infrequently their virtue, in a foul-smelling pesthole of a shop, or as newspaper venders in the street, they bless the hour when they can enjoy some rest or spend the few hours of their leisure in seeking such pleasures as dancing, or attending "tingel-tangel" theaters and nondescript resorts. The few hours of their pleasure are thus filled out with morbid amusement and still more morbid desires, which eventually are apt to be realized, and which furnish a spur to the propagation of genital disorders.

We cannot very effectively antagonize the output of alcoholic beverages. Laws have been created to limit the sale of spirit-

uous liquors, but they prove of no avail. Government monopolies, as in Russia, have not put a stop to the liquor traffic; nor has prohibition. Scientific suasion, not compulsion, will effect a change, and this can only be accomplished by the school and the parents. Our schools teach wonderful and fearful things, but they never acquaint the pupil of the baneful effects of alcohol. A little household chemistry introduced in public schools will do much in familiarizing our youth with the immediate and remote effects of alcohol in its various forms. Once this factor is removed, a cause is removed therewith potent enough in the inauguration of the maladies under discussion.

The author wishes in this connection to call attention to the faulty training of our female youth. They are encumbered by language, music, and art. They are taught mannerisms, social amenities, household sciences. But one thing they are not taught, and this is their own physiology. The mother and the teacher neglect to acquaint the growing child with the changes which are imminent in her life. She knows naught of the physiology and functions of the genital tract, of approaching womanhood, of the menstrual epoch, or in short, she is ignorant of all that concerns her own sex. And ignorance in this case is not bliss; it is ignorance fraught with danger.

The same applies to our male youth. At the advent of the period of transition, pubescence, the somatic and psychic elements of the growing child are profoundly altered. The organs and structures of the body seem to run riot in their proliferative activity; the intellectual and emotional spheres are also brought into active play. The emotional centers of the cerebrum are apt to bear the brunt of the process; this takes place in various phases, namely, either as a profound religious feeling or as an intense sexual desire. Sexual instinct is being aroused from its lethargy, and this epoch is a vital one for the future welfare of the child. If it be the religious feeling which preponderates and finally conquers, or similar emotions, they are likely to recede from the field of activity, leaving *carte blanche* to the other growing and developing sensations in the sphere of emotion. But at times the sexual feeling predominates, and the youth may have recourse to masturbation or natural sexual gratification. A knowledge of the manifestations of this eventful epoch would materially aid in dispelling fancies and inclinations and cooling and quelling passions which when allowed to continue may give rise to various venereal disturbances. To quote Osler: "Idleness is the mother of lechery. Hard work of body and hard

work of mind will do it. There are many altars besides that of Venus upon which a young man may light fires."

Regulation of Matrimony.—This is not exactly an immediate prophylactic measure for venereal affections, although we must admit that the number of women infected postnuptially is appalling. Gynecologists will bear out this contention, as they more than others have witnessed the dire results following the transmission of gonococcic urethritis to women from infected husbands. How many laparotomies are performed for the relief of gonococcic infection? Of course these are merely immediate sequelæ, but what about the remote consequences? What about the innocent offspring, who surely should be exempt from the sins of its progenitors? Syphilis is that disease which is transmitted from parents to offspring, from generation to generation. In countless instances we note the result of hereditary lues, and its features are deplorable beyond measure. Now, by regulating matrimony, and preventing the transmission of venereal diseases from husband to wife and from parent to offspring respectively, we shall be enabled to minimize in some degree at least the ravages of the various venereal maladies. Let the state prohibit the marriage of individuals afflicted with a venereal disorder, and make an infraction of same a felony, punishable by law. Let the state appoint a board to examine candidates for the matrimonial state for venereal diseases and syphilis, and declare only those eligible who can present a clean bill, prohibiting those to marry who show signs of venereal disease or who are otherwise constitutionally tainted. This would doubtless obviate the dissemination of these affections and prepare a healthy soil for future generations. Some are inclined to sneer at this measure, and exhibit a contemptuous attitude toward it, but it is certain that they are unable to offer a better solution of the hazardous problem.

The remedy, however, of paramount importance in breaking the backbone of the evil is the strict and effective regulation of prostitution. It should not only be a local option measure, but under the direct supervision of the state. Prostitution is in the present exigencies of our civilization a sad necessity, as it has been since time immemorial. It is a social evil, and as such will require centuries for its total abolition. However, this evil can be made less formidable, if properly controlled. Houses of ill-fame should not be allowed to ply their body-bartering business in thickly populated districts. They should be confined to the suburbs, a distance away from the central portion of cities. The

number of houses should be limited, and they should be under the conjoined control of the police and board of health. Thrice weekly the inmates of houses of prostitution should be submitted to a thorough and painstaking examination by competent physicians especially appointed for this purpose, and the results of the examination recorded in a booklet bearing as a frontispiece the photograph of the prostitute and her name. At every examination the following should be ascertained:

1. Is she free from ulcerations of the genital tract?
2. Is there any discharge, purulent or otherwise?
3. Are there any warts or condylomata in or about the genitalia?
4. Are there any manifestations of syphilis?
5. What is to be noted on vaginal (specular) examination.
6. Do you think that she is free from any and all venereal affections and not dangerous to public health?

All these questions must be explicitly answered. Failure to do so is proof positive of the coital unfitness of the prostitute and she should be declared a menace to public health; she should either be removed from the house, or in event of doubt detained indefinitely, or until the authorities deem it advisable to readmit her. Young men under twenty should not be admitted to brothels. Of course this is only an arbitrary means, but it reënforces the chief measure. Women under twenty should not be allowed to become prostitutes; such an event should be regarded as a felony.

To recapitulate: The following measures suggest themselves as preventives within our reach for the dissemination of venereal affections:

1. *Education:* (*a*) A unisexual separate system of education; (*b*) some knowledge concerning the baneful effects of spirituous beverages; (*c*) the guarded parental intimation to both male and female children of the physiology of the generative organs and the evil results to be incurred through deviation from the normal standard.

2. The prohibition of distribution of pamphlets replete with obscene and suggestive sexual descriptions, and the regulation of advertisements in public places so as to conform to good taste.

3. The interdiction of all morally inadequate, questionable, and nondescript theatrical resorts.

4. The regulation of matrimony.

5. The rigid regulation of prostitution.

There are other measures whereby the spread of venereal diseases could be curtailed, but they are unfortunately unavailable, or rather inexpedient. They are Utopian in quality, and may hence be relegated to the possible future. But the more practical measures should be adopted and systematically and rigidly carried through. Lawmakers should do more than enact dead-letter laws and debate over irrelevant and hair-splitting subtleties. They can do more than protect railway companies from taxation and flatter and abet the interests of corrupt politicians. There is something more vital and more imperative in the intrinsic duties of legislatures. Let them inaugurate a crusade against venereal diseases, stamp them out, purify the soil for our future generations, strengthen the foundation upon which the nation may rest while working out its destinies. Let us all combine, members of the liberal professions, business men, men of handicraft and brain—we need all and every one—and let us strive in unison to attack a menace which is undermining the integrity of our national life. Let not history repeat itself by introducing a second Roman state of affairs, wherein debauchery, lust, and national disintegration will reign supreme. The unit of the commonwealth is the individual. Let us see that the individual is unsullied and untainted. For the sake of the innocent offspring, for the sake of pure womanhood, for the sake of the stability of the nation, let us destroy a social evil which threatens to swallow society in the abyss of oblivion.

HYPEREMIA AND HYPERSECRETION OF THE PROSTATE.

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The line of demarcation between prostatic hyperemia and inflammation is often rather indefinite. From a pathologic, and more especially from a clinical, standpoint there are, nevertheless, many cases of prostatic disease that are essentially active or passive hyperemia rather than inflammation. That hyperemia predisposes to, and is likely to terminate in, true inflammation is well understood. Especially is this true of prostatic diseases involving local circulatory disturbance. This proposition is therefore taken for granted as a preliminary to the discussion of prostatic hyperemia. In perhaps the majority of cases of prostatic disease the diagnosis of prostatitis, acute or chronic,

is made and passes without question. That no harm thereby results in the majority of cases is simply because the principles of treatment are essentially the same in both conditions. In some cases, however, a true appreciation of the conditions present would be of direct benefit to the patient, as in certain cases of passive congestion from venous obstruction. Measures that relieve passive hyperemia are likely to prevent the development of true inflammation.

Etiology.—Active prostatic hyperemia has its point of departure, as a rule, in perturbation either of the sexual function or of the physiologic act of micturition. The prostate is, from time to time, the seat of physiologic hyperemia, as is true of all glandular organs. This attends sexual excitement, however such excitement may be produced. Under normal conditions the circulation resumes its usual status as soon as the excitement ceases. Its return to a normal circulatory state is still more rapid when the sexual function has been naturally performed. Prolonged sexual excitement without gratification is the most prolific source of prostatic hyperemia. Frequent masturbation and sexual excess will also produce it. The periods of rest between the acts of ejaculation are so short that the circulation cannot regain its normal equilibrium. Sexual excess and masturbation are even more potent in the production of pathologic hyperemia when associated with erotic mentality, alcohol, high living, and a gouty or rheumatic diathesis. If hyperemia be long-continued, subacute or chronic inflammation will probably supervene.

The relation of sexual excitement to prostatic disease demands great consideration. It should be understood that physical continence may be associated, so to speak, with psychic incontinence, with a resulting prostatic hyperemia that may produce both functional and organic disturbance. The importance of avoiding sexual stimuli, psychic and physical, cannot be too strongly emphasized in the management of all prostatic and vesical diseases.

More or less prostatic hyperemia is probably almost always present in urethral and bladder disease, acute or chronic, being due not only to inflammation of the vesicourethral mucous membrane *per se*, but also to frequent micturition produced by irritation of the vesical neck. The termination of the act of micturition is characterized by reflex spasm of the cut-off muscle, which is greatly exaggerated by hyperesthesia of the posterior urethra incidental to inflammation or reflex irritation of the

part. So exaggerated is the spasmodic contraction of the physiologic cut-off that actual traumatism of the prostate results. There is marked disturbance of the circulation, and not only active hyperemia, but lessened power of resistance of both glandular and muscular structure to infection.

Irritative and inflammatory affections of the lower bowel produce reflex irritation of the vesical neck with associated prostatic hyperemia. The hyperemia and associated spasm may be so severe as to produce retention. This is observed after operations about this part and in inflamed hemorrhoids. Rectal tenesmus, as seen in certain cases of dysentery and acute proctitis, is apt to produce similar conditions affecting the prostate and vesical neck. In chronic disease of the lower bowel, such as polypi, stricture, tumors, and particularly hemorrhoids, passive congestion of the prostate results from venous obstruction. I have observed well-marked prostatic enlargement associated with stricture of the rectum and hemorrhoids that has disappeared after an operation upon the lower bowel. Constipation, excessive horseback-riding, and cycling are sometimes efficient causes of prostatic hyperemia.

Hyperemia of the prostate is a feature of all cases of strangury produced by drugs. Cantharides, turpentine, and, it is said, the various balsamic preparations may produce this condition. Prostatic hyperemia rarely, if ever, goes on to acute inflammation idiopathically. Instrumental interference, with associated trauma and sepsis, or mixed infection from posterior urethritis, is usually necessary to precipitate acute inflammation. Obstructive urethral disease is likely to produce more or less marked prostatic hyperemia. Urethral strictures of small caliber are usually associated with more or less prostatic engorgement. Large-calibered penile strictures may produce prostatic hyperemia reflexly, even where there is no appreciable obstruction to urination. The slightest contraction in the bulbomembranous region, from the close association of its nervous and vascular supply with that of the prostate, is likely to produce circulatory disturbance in the latter.

Hyperemia of the prostate may become chronic. The chronic form is usually passive, and most frequently associated with constipation and ungratified sexual desire. Sexual excitement is the most important factor in its production, and is especially likely to exist in masturbators, in whom it is characterized by the escape of prostatic fluid at various times. The affection is usually supposed by the patient to be spermatorrhea, while by

the profession at large most cases are classified as prostatorrhea. The prostatic congestion causes hypersecretion, and probably relaxation of the mouths of the prostatic ducts. The condition might be classified as prostatic catarrh were it not for the quite general association of this term with true inflammation. Follicular prostatitis as described by most writers implies this result of hypersecretion, and to the author appears to be a misnomer. The principal disturbances from this form of prostatic disease are of a psychic rather than physical character.

Whether or not chronic hyperemia of the prostate from sexual causes may be the foundation of hypertrophy of the organ in after-life has been the subject of much contention. The author inclines to the affirmative.

Symptomatology.—One of the most characteristic symptoms of prostatic hyperemia is a sense of fulness in the perineum and a voluptuous sensation as of impending orgasm. There is likely to be a sensation of fulness in the rectum, with possibly erotic sensations and more or less tenderness during evacuation of the bowel. An urgent desire to urinate is almost invariably excited by defecation. There may be considerable prostatic engorgement, without much, if any, increase in the frequency of micturition. If, however, the point of departure be direct or reflex irritation or inflammation of the posterior urethra, frequent and painful micturition is an inevitable result. Even in cases in which micturition is not increased in frequency, the patient will very likely complain of some pain and a bruised sensation in the perineum following the act. If the hyperemia be long-continued, prostatorrhea is likely to supervene as a consequence of hypersecretory activity of the prostatic glands. In some cases the floor of the prostatic urethra becomes so hypersensitive that frequent seminal emissions occur. Rusty or bloody semen is occasionally observed; but as a rule this symptom is indicative of seminal vesiculitis. Pain during the paroxysmal spasm of seminal ejaculation is a frequent symptom. On the other hand, many patients state that coitus is beneficial. In such cases it is very safe to conclude that the condition of the prostate is one of simple hyperemia. Even in such cases, however, it is not unusual for the patient to experience only temporary relief from coitus. Often repeated indulgence results in aggravation of the symptoms. Rectal examination may elicit some fulness and tenderness of the prostate. This is not always present, as there may be quite a degree of passive hyperemia without much increase in the size of the prostate. This symp-

tom is quite apt to be unreliable, because of the variability of the size of the prostate as felt per rectum and the varying degree of digital expertness in rectal examinations. Passive hyperemia of the prostate associated with circulatory disturbance in the lower bowel, or dependent upon a gouty or rheumatic diathesis, is occasionally associated with hematuria. I have observed a number of cases of hematuria with the expulsion of the characteristic fusiform clot found in prostatic hemorrhage in which no cause could be determined other than passive prostatic congestion, which attention to the assumed etiologic factors speedily relieved, measures to relieve portal congestion having been especially efficacious. This is worthy of consideration in cases of hematuria of obscure origin.

Prostatorrhea.—A frequent symptom of chronic hyperemia of the prostate is a discharge of its characteristic secretion from the urethra. This is favored by sexual excitement, erotic ideas being often sufficient to produce it. Under such circumstances it is associated with more or less urethral secretion, which escapes during the excitement, while the prostatic secretion afterward comes away with the urine. It is most frequently observed during straining at stool, and sufficient secretion may escape with the urine to produce an appreciable deposit in this fluid on standing. Very often no prostatic discharge is noticeable excepting at the termination of micturition, when, according to the patient's story, the urine appears to be decidedly milky. These patients are the most likely of all to become victims of the quack; they constitute by far the larger proportion of cases of alleged spermatorrhea. Associated with the local difficulty is more or less hypochondria, perhaps verging upon melancholia. The patient occupies himself very industriously in magnifying every symptom, real or imaginary, of which he may chance to be the victim. His unstable psychic condition explains the profound influence that quacks and quack literature are likely to have upon him. Associated with the so-called prostatorrhea may be more or less vesical irritation, largely neurotic in character, and perhaps neuralgic pains in the urethra, perineum, groins, and thighs. The majority of patients complain of pain in the back as the most prominent symptom aside from the urethral discharge.

Whenever fluid escapes from the meatus during the intervals of micturition, excepting in the act of defecation, some morbid condition of the anterior urethra is superadded to the prostatic hyperemia. The prostatic fluid cannot escape unless

the true sphincter vesicæ—*i.e.*, the membranous urethra and its muscular investments—is relaxed physiologically, or the prostate is mechanically squeezed by the perineal muscles and the passage of hardened feces. The fluid that escapes during sexual excitement usually consists of urethral secretion. In cases of simple chronic hyperemia of the prostate the prostatic discharge does not contain inflammatory elements, being made up almost entirely of prostatic secretion, mucus, and some effete epithelial cells. There may be present, especially after sexual excitement, a certain number of seminal elements that have escaped from the overdistended vesiculæ seminales. The escape of semen into the prostatic urethra is favored by relaxation or patulousness of the mouths of the ejaculatory ducts, and is often immediately induced by straining at stool. The seminal elements are scanty and by no means a constant or necessary symptom. Rarely, indeed, are they sufficiently abundant to justify a diagnosis of spermatorrhea. No matter how few in number they may be, however, they are hailed with delight by the quack, and are often assigned undue importance even by honest practitioners.

Treatment.—The first principles of treatment of prostatic hyperemia involve all of the rules of genito-urinary hygiene. Briefly, the urine should be rendered unirritating by the administration of bland fluids, of which distilled water or the various saline mineral waters may be taken as the type. Alkaline remedies may be administered where simpler measures are not sufficient to neutralize urinary acidity. The diet should be unstimulating. All sources of sexual excitement, both psychic and physical, should be removed. Exercise should be restricted, and if necessary, prohibited altogether. Athletic feats, cycling, horseback-riding, and climbing are particularly to be enjoined. I would especially call attention to climbing exercises, as practiced by young lads and some athletes, as especially injurious. The danger of the conditions becoming chronic should be impressed upon the patient. Instrumentation of the urethra is, in general, to be avoided in acute hyperemia.

Numerous internal remedies are more or less serviceable in prostatic congestion. Mercurial and saline cathartics and laxatives are especially beneficial by relieving hepatic obstruction, thus indirectly removing obstruction to the pelvic circulation. Ergot and gossypium are of undoubted value, directly tending to correct the circulatory disturbance. Sexual excitement is best combated by the bromides in combination with gelsemium. Monobromide of camphor, hyoscyamus, and other anaphro-

disiacs are likely to be of service. Suppositories of ice and enemata of cold water are often valuable, cold sitz baths being an excellent adjuvant. In prostatic hyperemia dependent upon anorectal or vesical disease, attention should be given to the primary condition.

In cases of chronic prostatic hyperemia associated with so-called prostatorrhea special attention should be paid to the psychic disturbances present. Rarely, indeed, are such cases presented to the reputable practitioner before a number of quacks have been consulted. The patient is thoroughly convinced that he has spermatorrhea with an allied train of serious nervous disturbances, and last, but not least, he believes himself impotent. Instruction in sexual physiology and hygiene is absolutely necessary for this class of patients. Particularly must they be impressed with the fact that they are not losing semen in the urine, else all of our efforts will be set at naught by their morbid psychic state. By far the larger proportion of cases suffer from constipation. The relief of this condition usually causes the prostatorrhea—the most prominent symptom, in the opinion of the patient—to disappear. Ergot and the bromides are exceedingly useful internal remedies. Hamamelis and hydrastis are serviceable from their known influence over unstriated muscular fiber, and incidentally by controlling vascular supply. Tonics—such as preparations of strychnine, iron, and arsenic, and the mineral acids—are very likely to be useful in this class of cases. The occasional passage of a cold sound or the psychrophor is a valuable local measure. The effect of instrumentation is, to a certain extent, moral, but its benefits are none the less marked. Its physical effect is probably the restoration of local vascular tone and relief of nervous irritability. Counter-irritation to the perineum is likely to be beneficial. The application of astringents to the prostatic urethra may be alternated with the insertion of the steel sound. The silver salts in mild solutions, tannic acid, and hydrastin muriate are all serviceable drugs. Soluble bougies containing astringents are sometimes of service. Prostatic massage is often a most reliable measure. The local treatment in prostatic hyperemia associated with so-called prostatorrhea is very similar to that of chronic follicular prostatitis, in which escape of prostatic secretion is also a symptom.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE SCIENCE AND THE ART OF MEDICINE.

Medicine is at once a science and an art. The sum of our knowledge of the principles and facts of medicine, determined by experiment and investigation, constitutes the science; the application of these principles and facts to the needs of the individual patient is the art. Broadly speaking, there are two distinct fields of effort to which one may devote his time and attention: pure science, and applied science, or art—in other words, one may devote himself to the laboratory or to clinical practice.

Although the two are in a sense separate and distinct, still they are closely related, and the medical scientist and the medical artist can never get out of touch without a distinct loss to both. The more the clinician knows of the science of medicine, the more perfectly will he practice the art of diagnosing and treating the ailments of his patients. He must have a comprehensive knowledge of the advances made by the investigator in his laboratory, although he is not of necessity familiar with the technique of the experiments by which the results have been reached. The laboratory worker can never lose sight of the problems whose solution is demanded by the needs of the clinician, for the advances in the science of medicine should be along the lines pointed out by the necessities of the art.

There is another point at which the laboratory worker and the clinician come into daily contact. This is not so much the investigation of new problems as the application of those principles and facts already well known and of proved value. There are a multitude of clinical examinations of secretions and excretions, exact knowledge of whose condition is of great assistance to the clinician in the diagnosis and prognosis of the diseases

with which he comes in contact. In this work the need of coöperation is great. The development of a special class of men doing clinical laboratory work is of recent date. Like all new things, the possibilities of laboratory diagnosis have not been properly estimated by some clinicians, and its limitations not sufficiently realized.

Some disregard entirely the aid of the laboratory in diagnosis, while others think it sufficient to send material for examination without the slightest indication of its character, or the examination desired, and no intimation of the history and present condition of the patient, expecting the laboratory man by some intuition to discover all these things for himself. Neither the neglect of laboratory diagnosis nor overestimation of its possibilities is fair to the laboratory worker, the clinician, or to the patient. He who neglects the laboratory side of medicine frequently deprives himself of exact knowledge that may be of the greatest value to his patient. He who expects the laboratory man to make examinations without any data from which to draw conclusions, other than what he sees in the test-tube or through his microscope, deprives those conclusions of half their value, and denies his patient half the value of the examinations. No one would expect a surgeon called in consultation to make his diagnosis taking no account of the present condition or the previous history of the patient, and it is as unfair to the patient to expect the laboratory man to draw correct conclusions from incomplete data. Yet he is asked to do this very thing every day.

This attitude is not, in the great majority of cases, due to any hostility of the clinician to the laboratory worker, but to a misconception of the scope and possibilities of the laboratory. Some men think that it is unnecessary to accompany their specimens with any data; others feel that the laboratory man's opinion will be more unprejudiced if he knows nothing about the material he is working with. This is unjust, and the injustice is chiefly and primarily to the patient, for it is the patient who suffers.

The solution of the problem lies in coöperation. Let the clinician and the laboratory man work together, each taking advantage of the other's special knowledge. Mutual confidence will be of immense value to both: to the clinician in applying the results of the particular examination to the individual case; to the laboratory man in correlating the results of his examinations with clinical conditions.

EDITORIAL NOTES.

Sterilization of Cutting Instruments.

One of the most frequent complaints heard in the operating room is of the dulness of knives and scissors, and many a surgeon is unable to do his work as neatly as he wishes on this account. A writer in the *Annals of Gynecology and Pediatry* draws a comparison between the cutlery of the older surgeons and those of the present time. He says that the excellence of the instruments used by the old-time surgeon was due to the fact that years ago the sterilization of instruments was unknown. The writer last year sent out a number of inquiries to operators in different parts of the country, asking: (1) How do you sterilize your knives and scissors? (2) What method has the least effect in dulling their edges? In regard to scissors, all answered that they were boiled with the rest of the instruments. In regard to the knives the answers varied. A great many surgeons are abandoning sterilization of knives by boiling, owing to the fact that it soon unfits them for use. From his data obtained the writer draws the following conclusions: Knives can be safely sterilized by chemical and mechanical means without the use of heat in any form. The majority of American surgeons are using carbolic acid or alcohol, or both. Immersion in 95-per-cent alcohol has the least and boiling the most effect in dulling the edge of a knife.

An Aid Association for Mothers.

From a French exchange we learn of a novel method of encouraging women to become mothers. A society exists in many towns in France known as the Mutual Maternal Association. Members of this society are taxed sixty cents a year, and when a member in good standing becomes a mother she is entitled to draw from the funds of the society $2.40 a week for the first four weeks, with an addition of $2 if she nurse the child. The reports of the association show that during the past ten years between four and five thousand women were thus aided, and that the mortality of infants has been reduced to six per cent, while the birth-rate has increased very much. Those interested in race suicide in this country might do well to turn their efforts toward organizing similar associations.

ITEMS AND NOTES.

THE first National Medical Congress of Cuba was held last month.

REGIUS PROFESSOR OSLER sailed for England on the *Cedric* May 19.

THE plague epidemic in India is continuing with unabated violence.

A NEW hospital for poor consumptives has just been opened in Rome.

ROBERT KOCH is now in the interior of Africa, prosecuting his researches.

IN point of attendance Chicago has the largest medical school in the country.

ACCORDING to Public Health Reports, yellow fever is still present in Rio de Janeiro.

THE memorial to von Esmarch at Tonning, his birthplace, will be unveiled August 6.

A PARISIAN physician announces that the low birth-rate in France is due to alcoholism.

THE Queen of Holland has given $100,000 to found a hospital for crippled children at The Hague.

THE latest reports indicate that the authorities at Panama have succeeded in getting the yellow fever situation well under control.

THE Illinois legislature recently made an appropriation of $75,000 for a new building for the Illinois Charitable Eye and Ear Infirmary.

THE degree of Doctor of Medicine was recently conferred for the first time on a woman by the University of Berlin. The name of the lady is Fraulein Elise Taube.

A NEW society called the Harvey Society, consisting of laboratory workers in New York City, has recently been established under the patronage of the New York Academy of Medicine.

An idea of the enormous cost of the war to Russia may be gathered from the fact that the expenditure of the Russian Red Cross Society for the month of April alone was nearly $37,000.

The naval surgeon on duty at Guam has been formally proclaimed health officer in charge of the department of health and charities, and to have general supervision of the public health and sanitary interests of Guam.

Several cases of cerebrospinal meningitis have occurred in Irthlingborough, England—four in one house. In Prussia there have been 1935 cases and 994 deaths since April 30; and in Silesia 1814 cases and 932 deaths.

The Kansas City Medical College and the Medico-Chirurgical College of Kansas City have been consolidated, and a faculty will be chosen from the combined schools to form the medical department of the Kansas State University.

Reports from London state that much attention is being attracted by an article in the *Journal of Physiology*, in which H. D. Dakin of the Lister Institute asserts that he has discovered a method of producing adrenalin from coal-tar products.

The new Hygienic Institute of the Berlin University was opened with full ceremonial on May 3, a large number of distinguished guests being present. In his opening address the director, Professor Rubner, sketched the history of the institute and of German hygienic teaching generally.

At a meeting of the cerebrospinal meningitis commission on May 5 attention was called to the benefit derived from the free admission of sunlight into the sick-room. It was admitted that the best treatment for the disease was plenty of fresh air. From all experience no benefit has been derived from the use of any serum or antitoxin. Further experiments will be carried out with these agents.

The Elizabeth, N. J., Board of Health has undertaken, says an Eastern contemporary, to drain the meadows between that town and Newark in order to reduce the number of if not to exterminate altogether the mosquitoes that breed there. A sufficient sum has been appropriated to do about two-thirds of the necessary work this season. The Central Railroad of New Jersey will be asked to coöperate to the extent of placing culverts under the road-bed wherever the ditching plan will make that necessary.

The German Association of Scientists and Medical Practitioners will hold its seventy-seventh annual meeting this year at Meran from September 24 to 30. The work of the scientific branch of the congress will be distributed among fourteen and that of the medical branch among seventeen sections. At the general meetings addresses will be delivered by Professor Langley, of Cambridge, on recent researches on the nervous system, and by Professor Correus, of Leipzig, and Professor Heider, of Innsbruck, on the laws of heredity.

At a recent meeting of the Board of Aldermen of New York, Vice-President Sullivan offered, according to the *Medical Record,* a resolution, which was adopted, calling on the Department of Health, the Charities Department, and the Tenement House Department to examine and report on the growing custom of landlords to refuse to rent houses and apartments to people who have children. The department also was requested to get an opinion from the corporation counsel to see if the landlords could not be curbed in their race suicide proclivities by the aldermanic power. After considerable debate the board adopted the adverse report of the Finance Committee on the appropriation of $1,000,000 for playgrounds for the public schools.

Arrangements are now, according to the *Medical Record,* almost complete for the opening of a marine biological station at La Jolla, a suburb of San Diego, Cal., under the direction of Prof. William E. Ritter, of the University of California. The laboratory will take the place of the one that has been conducted by Professor Ritter during the past year or two at Coronado Beach. The change of location has been made on account of the better facilities for obtaining specimens at La Jolla, where the forms of ocean life most desirable for study approach to within a short distance from the shore. This region is also considered the best for research work in the United States, the climatic conditions being such as to permit of continuous study, summer and winter.

From October 2 to 7 next a grand international congress against tuberculosis will be held in Paris. The opening session will be held at the Grand Palais, the honorary presidents being M. Casimir-Perier and M. Leon Bourgeois, while the President of the Republic is patron. A sum of 100,000 francs has been voted by the Chambers. The nature of the researches to be

undertaken, the scope of the publications, and the official receptions which will be offered to those attending the congress will justify the effort which the state and the whole body of French men of science are going to make. The congress will not confine itself to the medical aspects of tuberculosis, but will also discuss the social side of the question, and will make an appeal for the cooperation of all classes of society in the fight against the disease. Twenty-five local committees outside Paris have been already constituted, and thirty-three foreign countries have organized national committees. In connection with the anatomy and bacteriology of tuberculosis, together with statistical documents and literature concerning methods of prophylaxis and the like, there will also be a commercial and industrial section. The exhibition will be open to the public throughout the month of October.

The monthly report of the Philippines Commissioner of Public Health for January shows: Of quarantinable diseases a case of bubonic plague was registered, the victim being a Chinaman; and two cases of smallpox, both in Tondo, which were sent to the smallpox hospital for isolation and treatment. The municipal physicians attended in their houses 146 patients and made 1364 visits; 266 patients called at the clinics established in the sanitary stations, and they were attended by the medical inspectors and municipal physicians in 773 consultations; 2996 prescriptions were filled at the municipal dispensaries. There were 24,448 vaccinations and revaccinations performed in Manila, and 10,032 inspections were made, from which it is ascertained that 2901 resulted successfully and 7231 unsuccessfully. The sanitary inspectors inspected 2572 houses, and reinspected 848 to verify whether the work which had been ordered to place the same in a sanitary condition had been carried out. The assistant sanitary inspectors inspected 22,307 houses and reinspected 8837; 2802 yards were ordered to be cleaned, and 2602 were cleaned; 15,801 rats were caught. The disinfecting brigade made 121 disinfections of houses where cases of infectious diseases had occurred, of stables where cases of infectious diseases among large animals were registered, and of insanitary places. The veterinarians of this bureau examined 7626 cattle of all classes and 38 animals of other species before their admittance into the city, 40 cattle for their shipment to the provinces, and 6426 before being slaughtered at the abattoir for the supply of the city.

NEW PUBLICATIONS.

A TEXT-BOOK OF MEDICAL PRACTICE.

This is an English publication, and presents within the compass of a single volume a complete text-book of medical practice. It is written by a number of physicians and specialists, and in its arrangement follows in sequence the main functions of the body—alimentation, respiration, and excretion, the nervous system being placed last. Then follow the general and metabolic diseases, intoxications, and poisons, and lastly infective and tropical diseases. The subject-matter displays unvarying literary skill, and the manual impresses one as being carefully compiled, aiming to be a safe guide to the practitioner. The work is a very interestng one, taken as a whole.

A Text-book of Medical Practice for Practitioners and Students. Edited by William Baen, M.D. Longmans, Green & Co., London, 1904.

DISEASES OF METABOLISM AND NUTRITION.

Professor Von Noorden's excellent little monograph on water restriction has been alluded to elsewhere, and it is to be hoped its teachings will go far to remove much misapprehension on this debated topic. It only remains to be said that the new volume maintains the high standard of scientific excellence attained in previous numbers of this excellent series. It is to be regretted that more work is not conceived and executed in the same spirit as that which is accomplished in Von Noorden's clinics.

Clinical Treatises on the Pathology and Therapy of Disorders of Nutrition. By Professor Carl Von Noorden. Part VI: Drink-restriction, Particularly in Obesity. E. B. Treat & Co., New York.

OPERATIVE SURGERY.

A fourth edition of this now well-known surgery testifies to the wide esteem in which it is held by practitioners throughout the country. The new edition will fulfil the pleasant anticipations which may have been formed of it. It has been entirely reset, and brought fully up to date. It is needless to say that Dr. Bryant's work is complete and effective in every particular, and that these two handsome volumes will constitute themselves a *sine qua non* in the library of the modern practitioner of surgery.

Operative Surgery. By J. D. Bryant, M.D., Professor of the Principles and Practice of Surgery, University and Bellevue Medical College, New York. Fourth edition. Two volumes; cloth, $10.00. D. Appleton & Company, New York.

AILMENTS OF WOMEN AND GIRLS.

This is a useful book written in simple language, and its aim is to make women and girls somewhat more familiar with the ailments and derangements of their own sex. It may be taken as a safe guide to those needing instruction in such matters.

Ailments of Women and Girls. By Florence Stacpoole. John Wright & Co., Bristol.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Benign Stricture of the Esophagus.

C. D. Spivak *(American Medicine,* May 6, 1905) divides benign stricture of the esophagus into congenital and acquired. Acquired stricture may be divided into: (1) Organic: (*a*) after ingestion of corrosive substances; (*b*) after the healing of an esophageal ulcer; and (*c*) lues. (2) Mechanical: (*a*) presence of foreign bodies; (*b*) polypi; and (*c*) thrush. Due to compression from without, as tumors, enlarged lymphatic glands, aneurism of the aorta, periesophageal abscess, and diverticulum of esophagus filled with food. (3) Spasmodic. The majority of all cases of benign stricture are due to cicatricial obliteration, the result of losses of substance following scalds, produced by caustic substances. Spivak says the symptoms especially referable to deglutition are a short period at the beginning when swallowing is impossible (the period of esophagitis), followed by (2) a period lasting several months, when deglutition is not impeded, and (3) a period when the difficulty of swallowing gradually redevelops (the period of stenosis). During the inflammatory period he advises rest, alkalies in acid poisoning, and *vice versa*, ice to the sternum, and stimulants. Gradual dilatation should be employed early. Conic semisolid elastic esophageal bougies should be used. Metallic or whalebone sounds with olive tips should be avoided. The bougie should be left in the esophagus for several minutes. At first the sound should be passed every day, and later every other or third day. When dilatation is complete, a bougie should still be passed at intervals of one month to prevent relapse. He reports three cases.

Hand Sterilization With Oil of Cloves.

J. C. Webster *(American Journal of Obstetrics,* March, 1905) outlines his method as follows: The hands are scrubbed for five minutes with any good soap and hot water, the latter being frequently changed. The skin is then dried with a sterile towel and rubbed for one minute with alcohol to remove any remaining moisture. When it is dry, unpurified clove oil is

rubbed into the skin for four or five minutes, and afterward washed out with alcohol. Clove oil is a powerful solvent of fats and penetrates deeply into the skin. The unpurified oil is less expensive and is probably a better germicide (its impurities being acid in nature) than the purified oil. The hands thus cleansed are thoroughly rubbed with sterilized talc powder and covered with smooth, dry rubber gloves which have been boiled for fifteen minutes. The skin of the hands is the same at the end as at the beginning of the operation. The sterile talc having been rubbed into all the irregularities of the skin, the latter is therefore very smooth. The operator should wear gloves of medium thickness, which are made from a model of his hand, thus securing a perfect fit.

New Operation for the Relief of Flatfoot.

Wilson and Patterson *(American Medicine,* May 6, 1905) present a favorable report of a new operation for flatfoot which they have employed, consisting of an arthrodesis of the astragaloscaphoid joint and the transplantation of the tendon of the extensor proprius hallucis through a hole drilled in the scaphoid bone, all an adaptation of Wolf's operation for paralytic valgus. The loss of function of the transplanted extensor of the great toe is but temporary, and until the extensor brevis digitorum becomes educated to overcome the toe-drop. The after-treatment is fully as important as the operative correction, and consists of well-adapted physical culture drills. This procedure has yielded better functional results than is possible by the use of arthrodesis alone. The combined operation for flatfoot, now described for the first time, offers no serious difficulties, the additional damage to the structures of the foot necessitated by this procedure is inconsiderable, the time required for treatment not longer, and the results obtained more certain and satisfactory. It would therefore seem well to use the combined operation in all suitable cases.

Gall-stone Obstruction of the Bowel.

A. C. Wood *(American Medicine,* May 13, 1905) reports the case of a woman, aged fifty-eight, operated upon for intestinal obstruction. The obstruction was found to be due to a gall-stone in the ileum, six inches above the valve. The stone was removed through an incision. It weighed 11.6 grammes, and measured

9.3 by 8 centimeters in circumference. A second stone, weighing 9 centimeters, was removed from the gall-bladder through an incision over the latter. The patient recovered. Brief notes of 21 additional cases, collected from the literature of the past five years, are appended. Of these 22 cases, 12 recovered and 10 died—mortality 47 per cent. But two of the number were men. The ages ranged from thirty-one to seventy-three. The average of the women was 59.85 years. One half of all the cases occurred in the sixth decade. The site of the obstruction was: Duodenum, 1; duodenojejunal junction, 1; jejunum, 2; "small intestine" (probably ileum), 1; ileum, 11 (probably 15); ileocæal valve, 1; colon, 1; not stated (probably ileum), 3. In one case the stone was in a mass of adhesions in the gall-bladder region and caused obstruction by setting up a local peritonitis.

Perforated Duodenal and Gastric Ulcers—Report of Two Cases.

Chas. L. Scudder *(Boston Medical and Surgical Journal*, May 11, 1905) summarizes his two cases as follows: One case was an ulcer of the stomach; the other was an ulcer of the duodenum. Both ulcers perforated, causing acute peritonitis. The first patient was operated upon four hours after the initial sign of perforation. The diagnosis of a perforated gastric ulcer was confirmed. The second patient was operated upon forty-eight hours after perforation. It was thought previous to operation that the patient had an appendicitis and a general peritonitis. Both the ulcers were closed by sutures. The peritoneal cavity in each instance was quickly cleansed by salt flushing and wiping. Cigarette and tube drains were used for a few days only in each case. Both patients recovered. In each case at a subsequent time a posterior gastrojejunostomy was done. The anastomosis was made close to the ligament of Treitz. Both patients recovered from the second operation and are well to-day. The report of the cases is followed by an analysis of their course, and the paper ends with a review of the symptomatology and treatment of duodenal and gastric ulcers.

Briefs on Genito-urinary Surgery.

G. Frank Lydston *(American Medicine*, April 29, 1905) discusses the etiology of prostatic enlargement and different varieties of the obstructive prostatic disease. He classifies the latter

into temporary obstructive conditions—as acute or subacute inflammation, (*a*) simple, (*b*) specific; accumulations of pus; congestion, subacute or chronic, superadded to chronic condition of the organ; foreign bodies and permanent obstructive conditions, as neoplasms of various kinds; atheroma; tuberculosis; and calculus. Lydston calls attention to the fact that congenital anatomic defects of the bladder and prostate are sometimes met, which may possibly bear an important etiologic relation to prostatic obstruction in advanced life. He has seen several instances of what might be termed congenital stricture of the prostate.

MEDICINE.

The Uses of Roentgen Rays in Medical Practice.

According to D. Innelman *(British Medical Journal,* May 6, 1905) one of the most important uses of Roentgen rays in medicine is in the controlling of the effects of accidents, in cases when claims for compensation are made. He considers it necessary to prepare a skiagraph in every such case, but inasmuch as badly procured pictures lead to confusion, the photograph should be carried out by a skilled Roentgographist. He gives some examples of wrong deductions having been made from faulty pictures. It is also necessary that the person controlling such cases be acquainted with all possible abnormalities of the skeleton. As an example, he cites a case in which the existence of a so-called "os intermedium cruris" gave the impression that a fracture was present. Sesamoid bones must also be recognized as such. The existence of splinters of metal damaging bones can be recognized, but one must at the same time be careful to determine whether there is any independent disease of the bone which has nothing to do with the accident. Sarcoma, syphilis, and tuberculosis may affect a bone which becomes injured. He points out that one must consider if the functional damage is in proportion to the supposed cause. Again, it requires a very careful judge to determine whether a healed fracture has left any avoidable laming behind. It is extremely rare to come across an ideal union of a fracture when seen in Roentgograph.

In medical jurisprudence also the uses of *x*-rays are of importance. As instances, he speaks of a case in which, although the accused stated that he only fired one shot, five bullets were found in the skull, and in another case a small portion of the blade of a knife was seen in the interior of the skull, proving that

the stabbing had been carried out with a knife. Another very important point in jurisprudence can be cleared up by means of the rays. In judging whether an infant has died during or after birth, or whether it was capable of existing (in fetal life) apart from the mother, an *x*-ray photograph will be able to settle at once whether the fetus has passed the thirtieth week, after which it is believed to be capable of independent life by attention to the skeleton. The ossification center in the distal end of the femur first appears at this time, and can readily be detected by these means. The lungs of an infant which has not breathed show a shadow, while those of an infant which has breathed do not do so. If the lungs have been artificially blown up, one sees transparent portions near the main bronchi. For the military surgeon and for the medical referee of a life insurance company, *x*-rays too are of great importance. Besides changes in the skeleton, the rays are able to demonstrate earlier than other methods of examination the existence of disease of the lungs and aneurism of the aorta. The chief point emphasized is that examination must be entrusted to one well practiced in skiagraphy.

Gonococcus Infections in Children.

L. Emmett Holt (*Archives of Pediatrics,* May, 1905) says that one must recognize gonococcus vaginitis as a very frequent disease, and one to be constantly reckoned with, in an institution for children. It is also very frequent in dispensary and tenement practice, and not uncommon in private practice of the better sort. In its milder forms and in sporadic cases it is extremely annoying, because so intractable; in its severe form it may be dangerous to life through setting up an acute gonococcus pyemia or infection of the serous membranes, and in its epidemic form it is a veritable scourge in an institution. The highly contagious character of gonococcus vaginitis makes it imperative that children suffering from it should not remain in the same wards or dormitories with other children. A similar danger, though less in degree, exists with the gonococcus ophthalmia and acute gonococcus arthritis or pyemia. It is practically impossible to prevent the spreading of the disease if infected children remain in the wards with others. They must either be excluded from the hospital, or, if admitted, immediately quarantined. Cases of gonococcus vaginitis can only be excluded from hospital wards by the systematic microscopic examination of a smear from the vaginal secretion of every child admitted. If a purulent vaginal

discharge is present such examinations are imperative and should be made as much a matter of hospital routine as the taking of throat cultures in children with tonsillar exudates. In the absence of a bacteriologic examination a purulent discharge in a young child may be assumed to be due to the gonococcus. The quarantine to be effective must extend to nurses and attendants as well as to children. Furthermore, the napkins, bedding, and other clothing of the infected children must be washed separately from that of the rest of the house. Where the gonococcus is found with no vaginal discharge such cases may be dangerous in the ward. One of the greatest difficulties in connection with the gonococcus vaginitis arises from prolonged quarantine, rendered necessary from the fact that these cases are of very chronic character and very resistant to treatment.

A Case of Chorea, Fatal Apparently from Excessive Muscular Action.

T. P. C. Griffith *(American Medicine,* April 29, 1905) refers to the fact that death from chorea is unusual, the Collective Investigation Committee of the British Medical Association finding only 9 deaths in 439 reported cases, and Sinkler finding but 64 occurring in Philadelphia during seventy-four years. In the great majority of cases the fatal issue depends upon some complication, especially endocarditis, and deaths depending directly upon exhaustion from enormous muscular action must be considered a rarity. He reports an instance of this occurring in a boy of eleven under his care at the Children's Hospital of Philadelphia. The child had had a previous attack of chorea two years before. The cause of the development of the present attack was not known. A month before he commenced to show restlessness, which advanced to chorea movements and grimaces. For a week the movements had been excessive. On admission to the hospital nothing could be found abnormal in the organs, except the presence of a systolic murmur in the mitral area. The boy could not speak, although he seemed to understand perfectly. The movements were so excessive that the child was thrown violently about the bed, and was bruised all over. Sleep was almost absent. The condition was relieved to a certain extent by hyoscine hydrobromate hypodermically given, and the administration of morphine, potassium bromide and chloral hydrate having been entirely ineffective. The excessive movements continued, and exhaustion and death finally ensued. The autopsy

showed the presence of an endocarditis with microorganisms in the heart muscle and in the mitral leaflets. While it cannot be affirmed positively that death did not follow from endocarditis, yet the case bore all the evidences of death from exhaustion, the result of the enormous muscular activity.

Gout.

E. Schmoll (*Journal of the American Medical Association*, April 29, 1905) offers the following as his conception of gout: In gout the uric acid is produced not only by oxidation of purin bases, but by synthesis; this synthesized uric acid therefore has not at its disposal the thymic acid necessary for its solution in the blood. This is why we can detect uric acid in the serum. If the formation of the synthetic uric acid increases for any reason the serum becomes saturated, and as no thymic acid prevents its precipitation it is deposited as tophi in the joints. He explains some difficulties of this theory, and gives the results of his experiments with the thymic acid treatment. The excretion of uric acid is constantly increased during the medication, attacks of gout cease to appear, the swelling goes down and in some cases entirely disappears. The dose is about one-quarter of a grain three or four times a day, and is given after meals to avoid gastric disturbance. Larger doses, three or four grains in twenty-four hours, may cause local inflammatory reaction. He does not claim to cure gout in this way, but simply to neutralize the primary metabolic disturbance revealing itself by the synthetic formation of the uric acid.

Nasal Conditions Dependent upon the Generative Organs.

Justus Sinexon (*Medical News*, May 6, 1905) directs attention to the following conclusions:

1. That turgescence of the nasal mucous membrane always occurs during the procreative act.

2. That there also exists a marked degree of hyperesthesia of the nasal mucous membrane at such times.

3. That a more or less marked periodical engorgement of the nasal mucosa occurs in females coincident with menstruation.

4. That this same engorgement also occurs periodically during pregnancy, demonstrating that it is not dependent upon the menstrual flow.

5. That operations which destroy the functions of the generative organs cause the nares to return to the state which existed prior to the advent of puberty.

6. That in lower animals sexual excitement is always accompanied by occlusion of the nares.

7. That this engorgement in the human family may result in epistaxis or hydrorrhea.

8. That the continued overstimulation of the nasal mucous membrane from sexual perversion results in a relaxation of the same through vasomotor paresis.

9. That the long-continued hypernutrition from frequent or inordinate congestion will in time produce tissue changes either of hyperplasia or atrophia.

10. That these conditions are in no way dependent upon hysteria or neurasthenia.

The Cause of Cerebrospinal Meningitis.

S. T. Maher (*Medical Record,* May 6, 1905) describes cultural and animal experiments undertaken with pus from the spinal canal of an adult sick with cerebrospinal meningitis. The results lead the author to say that his findings seem to show that the diplococcus of Weichselbaum is only one phase in the life cycle of an organism which at times is large and rod-shaped, at others small and of the shape of the pneumonia diplococcus, and probably at others of yeast shape.

THERAPEUTICS.

The Action of Adrenal Substance.

T. Baum *(British Medical Journal,* May 6, 1905) has made a minute study of the action of the active substance of the adrenals. When watched under the microscope, the action of these substances can be seen to take place on the smallest arteries and veins, but the author has not been able to see the action on the capillaries which others have described. He has come to the conclusion, after having studied the action on the skin affected with numerous diseases, that the action takes place the more rapidly, energetically, and lasts the longer the nearer normal the tissues, and especially the vessels, are. It fails in varicose ulceration and in telangiectatic veins. The substances do not penetrate through the unbroken skin, and thus they may be used as a delicate indicator for the presence of abrasions, etc. Vulpian has

pointed out that there is a certain likeness, chemically speaking, between suprarenal substance and "Brenz-catechin." Both color ferric chloride dark-green or violet; iodine in solution, chlorine water and bromine water, and other substances are tinged a pinkish carmine, which color disappears on addition of an excess of the reagent. Baum, therefore, carried out this comparative analysis further by testing the action of Brenz-catechin on the skin. Having lightly rubbed the skin with sandpaper, he applied from one- to ten-per-cent solutions of this substance. After about five minutes complete paling and "goose skin" appeared. The action could not be distinguished from that of adrenal substance. It appears that the active principle of suprarenal capsules is closely connected with the reducing substance, and that this reducing substance differs from the ordinary substances of this class, in that it acts in extremely small quantities, and is not dissociated itself. It therefore acts like a catalysator. It has further been shown that spermin acts catalytically as an oxidizing agent, and yet, like the ferments, does not take part in the process directly itself. Baum found that spermin has the exactly antagonistic action to that of adrenal substance and Brenz-catechin, in that it produces a sudden increase of the circulation, dilating the small arteries and veins.

It is extrèmely probable that the substance which has the same chemical and physiological properties as Brenz-catechin is the real active principle, and that spermin is an antagonist.

Diphtheria Antitoxin in Cerebrospinal Meningitis.

A. J. Wolf (*American Medicine*, May 13, 1905) asserts when the gross lesions of the disease have made extensive onslaughts on the vital centers a cure cannot be effected. With other workers, he finds the generally claimed specific character of the behavior of diplococcus intracellularis meningitidis to Gram's stain is not borne out by facts. The reaction of the culture medium effects peculiarities in form and variations in size of the organism. The optimum culture medium is diabetic urine to which is added two per cent peptone. He discovered the normal alkalinity of the cerebrospinal fluid is, in the course of the disease, changed to intensely acid, and the severity of the symptoms bears a direct relation to this increased acidity. Experiments suggested by the fact of the disappearance of diphtheria in the community during the prevalence of epidemic cerebrospinal meningitis lead to the determination that an antagonism

between the specific organisms of the two diseases does exist; that the Klebs-Loeffler bacillus is precipitated and agglutinated by the meningococcus when mixed; that diphtheria antitoxin inhibits the growth of the meningococcus and is antagonistic to it, though not so effectively as the diphtheria toxin, but he believes in the present state of our science the former only is available. He insists, to be effective, the antitoxin must be used early in the course of the disease and in large amounts.

Simple Ulcer of the Stomach and its Treatment.

J. J. McGrath *(Medical Record,* April 22, 1905) reviews the subject of gastric ulcer and discusses the various operations possible for relief from the condition. The most satisfactory of these is usually gastroenterostomy, which is curative in its effects, and when properly performed by competent surgeons on patients not too greatly reduced through inanition and hemorrhage should be almost devoid of fatalities. It is to be hoped that the intractable and persistent cases of gastric ulcer will come into the hands of the surgeon while there is still good promise of cure without undue risk of a fatal issue.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

On Peritomy for Diffuse Corneitis and Other Affections of the Cornea.

Simeon Snell (*Ophthalmology,* April, 1905) again refers to this operation as a most valuable one in his hands. He believes we have in peritomy a means of very distinct therapeutic value. It may be employed as a routine treatment in diffuse corneitis, and may be expected often to materially shorten the course of this frequently very protracted and serious disease, and the cornea will recover more completely its transparency than if the operation had not been performed. Peritomy may be performed with advantage in cases of chronic ulcer of the cornea.

Snell's operation, which can usually be performed without a general anesthetic, is as follows: A speculum is inserted and the patient desired to look downward; a fold of the conjunctiva just

beyond the cornea at the upper part is seized with forceps and is then snipped with curved scissors. From this point the conjunctiva is severed all around the cornea at a distance of from 2 to 3 millimeters. The portion left adhering to the cornea is next dissected up and removed with scissors. Recovery from the operation is usually rapid, and in no instance out of 200 cases did the author see any ill effects follow it.

Apparatus for Applying Hot Air to the Ear.

Albert C. Heath (*Journal of the American Medical Association,* April 29, 1905) describes an electrical apparatus that can be used with any cautery battery for applying heat to the ear. He claims for it the advantage of proper graduation of the temperature by means of the rheostat; the possibility of definite applications by means of the otoscope simultaneously employed; lack of danger of burning; simplicity of construction and management, etc. The air is heated by the cautery apparatus and forced through a rubber tube into the ear. By this means he claims the application of heat to the ear is made a definite therapeutic procedure, the amount being controlled and the application directly observed.

Scissors for Cutting Secondary Membranous Cataracts.

E. L. Oatman (*Medical Record,* May 6, 1905) has designed special scissors to be used for cutting the membranous bands sometimes forming after cataract extraction. One point is blunt, and the other, which is sharp, is ground to a knife edge on its back, so that after introduction into the anterior chamber it may easily perforate and pass below the membrane.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Cancer of the Uterus.

T. A. Sampson (*Journal of the American Medical Association,* May 20, 1905) takes up the subject of uterine cancer, more especially that of the cervix, with special reference to the importance of early diagnosis and treatment. It is of importance to the medical profession, first on account of its frequency, it being

the most frequent primary form of the disease; secondly, because it occurs mostly in middle life; and thirdly, because of the distress and suffering it produces. With an early diagnosis a large percentage of cures is possible, but on account of ignorance and neglect most operable cases pass into the incurable stage. Hence the importance of educating physicians, and through them the public, as to the curability and the diagnostic points for its early recognition. One early symptom easily recognized is bleeding, sometimes profuse, sometimes slight, but always abnormal, and therefore likely to attract attention. In the rare cases in which it is absent, other signs usually exist that should lead to the suspicion that there is something wrong and needing investigation. Few patients unoperated on live over three years after the appearance of this symptom, and the majority die within one or two years. An absolute prognosis cannot always be made either before or after operation, or from examination of the specimens removed. With present methods recurrence is likely to take place in three-fourths of the cases operated on, but operation may still be useful as a palliative, relieving suffering and lengthening life.

Although he reports here a case of apparent cure of recurrent cervical cancer, Sampson is doubtful as to the propriety of operation in cases of recurrence. The value of education in this matter is shown by the experience of the Johns Hopkins Hospital. There has been a steady increase of the proportion of early diagnosed and operable cases and of the percentage of cures, and this increase has been most noticeable among the educated and well-to-do women. Sampson refers to Winter's campaign of education in Prussia, by which the operability of uterine cancer was increased in East Prussia from 62 to 74 per cent in one year. The need of a more radical operation in these cases is pointed out, especially in patients in good general condition with a freely movable uterus. When the disease is apparently extensive and its removal difficult, and the patient is in poor condition, unless a very thorough operation can be done, including even excision of the lower portion of the ureters and part of the bladder, taking in all the diseased tissue, he advises that nothing be attempted. In very extensive inoperable cases he would treat the symptoms and do as little as possible locally.

The article concludes with some remarks on cancer of the fundus, in which the value of an early diagnosis is even greater than in cancer of the cervix, on account of the lower operative mortality and the better prognosis as to cure.

THE MEDICAL AGE

Vol. XXIII. DETROIT, JULY 25, 1905. No. 14.

ORIGINAL CONTRIBUTIONS.

ABDOMINAL BRAIN—(A) ANATOMY; (B) PHYSIOLOGY.

BY BYRON ROBINSON, CHICAGO.

(A) ANATOMY.

The abdominal brain or ganglion cœliacum has experienced multiple names during the past three centuries.

Synonyms.—Celiac ganglion (ganglion cœliacum); solar plexus (plexus solaris, Todd and Bowman, 1847); semilunar ganglion (ganglion semilunare); the great abdominal ganglion (ganglion abdominale maximum); abdominal brain (cerebrum abdominale, Wrisberg, 1780 [1739-1808]); the nervous center of Willis (centrum nervosum Willisii, 1622-1675); epigastric nervous center (centrum nervosum epigastricum); splanchnic ganglion (ganglion splanchnicum); vascular abdominal brain (cerebrum abdominale vasculare); epigastric plexus (plexus episgastricus); celiac plexus (plexus cœliacum).

Some authors have viewed the abdominal brain or celiac ganglion as composed of two parts, right and left, bilateral and paired. I shall consider it as practically one sympathetic ganglion or plexus anatomically or physiologically, and term it the abdominal brain—the celiac ganglion, a coalesced, vascular, visceral brain, unpaired, existing at the origin of the celiac, superior mesenteric, and renal arteries (major visceral arteries).

The *arrangement* of the abdominal brain consists of: (*a*) afferent or centripetal nerves (entering or contributing nerves from the cerebrum, spinal cord, or sympathetic); (*b*) efferent or centrifugal nerves (distributing or visceral). The afferent nerves enter chiefly on the proximal and lateral borders, while the efferent nerves radiate from all regions of the abdominal brain—hence solar plexus. There is no relation between the number and dimension of afferent and efferent nerves of the abdominal brain.

(*a*) *Afferent nerves.* The afferent or contributing nerves

composing the abdominal brain are: (sympathetic), (1) plexus aorticus thoracicus (unpaired); (2) nervus splanchnicus (paired), constituting the most essential portion of the abdominal brain; (3) branches from the two proximal lumbar ganglia (paired): (cerebrospinal) I, nervus vagus (paired), especially the right; II, nervus phrenicus (paired), especially the right. The abdominal brain consists of the coalesced termination of the above (1, 2, 3, I, II) five nerve apparatus. The abdominal brain is the major assembling center of the abdominal sympathetic.

(*b*) *The efferent nerves.* The efferent, visceral, or distributing nerves of the abdominal brain of various caliber radiate in a plexiform arterial sheath to every abdominal viscus, viz., to the *tractus intestinalis* and its appendages: plexus hepaticus, lienalis, gastricus, mesentericus superior, mesentericus inferior, hæmorrhoidalis; to the *tractus urinarius:* plexus suprarenalis, renalis, ureteris, vesicalis, urethralis; to the *tractus genitalis:* plexus ovaricus, hypogastricus (pelvic brain), plexus uterinus, pudendalis, vaginalis; to the *tractus vascularis* and *tractus lymphaticus.* The abdominal brain emits plexiform nerves and ganglia fixed in connective tissue sheaths which intimately encase the vascular tubes. The nerves emitted from the abdominal brain are gray or white in color, limited in diameter, plexiform in arrangement, resist tension on account of the thick fibrous neurilemma, and ganglia are liable to occur at their points of crossing or anastomosis. The radiating, efferent nerves of the abdominal brain accompany the arteries arranged in a plexiform sheath or network. They do not accompany the veins—the trunk of the vena portæ being the only exception.

I. Position: Holotopy (relation to general body).

The abdominal brain is located at the proximal end of the abdominal cavity immediately distal to the diaphragm. It is situated medially, extraperitoneally, and is practically bilaterally symmetrical.

II. Skeletopy (relation to osseous skeleton).

The abdominal brain corresponds to the level of the first lumbar vertebra, on its ventral surface.

III. Syntopy (relation to adjacent organs).

The syntopic relations of the abdominal brain are intimate and profound connections with vascular and visceral organs. It surrounds the roots of the celiac, superior mesenteric, and renal arteries like a color or fenestrated sheath. It is located extraperitoneally, on the ventral surface of the aorta and crura of

the diaphragm. It is situated immediately distal to the hiatus aorticus of the diaphragm. It lies between the diaphragmatic and renal arteries. Right and left it projects against the capsules of the adrenals. It is located between the proximal renal poles. It lies partly dorsal to the corpus pancreaticus and stomach. Its right half lies between the right crus of the diaphragm and the vena cava. Practically the abdominal brain is lodged in the space bounded bilaterally by the adrenals and proximal renal poles; proximally by a line drawn transversely from the proximal point of one adrenal to that of the other; distally by the renal arteries. The situation of the abdominal brain is included within the space of origin of the celiac and renal arteries—some two inches.

IV. Idiotopy (relation of component segments).

The component parts of the abdominal brain are from proximal to distal end in order, viz.: (*a*) The projecting ganglia of the origin of the diaphragmatic nerves located on the proximal border—conical elevations or bulb of the brain itself; (*b*) the semilunar ganglia, the essential material in form and dimension of the abdominal brain, constituting its major central segment; (*c*) the renal ganglia, located generally at the origin of the renal arteries, are practically constant, however varying in location, form, and dimension. The segments proximodistally are compactly and solidly united by ganglionic masses, flattened commissures, and nerve cords along the lateral borders of the aorta. The segments laterally, *i.e.*, the right half and left half, are united transversely around the roots of the celiac, superior mesenteric, and renal arteries by ganglionic arches, flattened commissures, and nerve cords extending transversely from the right to left half of the brain.

Dimensions.—The abdominal brain or celiac ganglion is the largest and richest ganglion of the sympathetic nerve. Hence from a preponderating aggregation of nerve cells it becomes the ruling potentate of the viscera. The left half is more compact, greater in dorsoventral diameter, thicker, less fenestrated, and possesses more definite regular borders than the right; however, the right half is greater in surface area. Its diameters are: (*a*) transverse about 1½ inches; (*b*) proximodistal 1¼ inches; (*c*) dorsoventral about 1/6 inch. The dimensions of the abdominal brain practically correspond with the space bounded bilaterally by the two adrenals and the two proximal renal poles; distally by the two renal arteries; proximally by the diaphragmatic arteries, or a line drawn transversely from the proximal end of

one adrenal to that of the other. Its surface dimensions vary extremely on account of the indefinite coalescence, interpolation, distribution, dislocation of ganglion, or by transportation along visceral vessels.

The Form.—The form of the abdominal brain is variable; however, in general it is quadrilateral. It may present a half-moon or horseshoe shape, or a ring surrounding the celiac axis and superior mesenteric artery. It may also be represented by a single broad fenestrated ganglionated plate which covers the ventral surface of the aorta adjacent to the celiac axis, and occupies the space between the adrenals and proximal renal poles. The left half may resemble a bean, a retort in compact form, while the right half is more quadrilateral, flattened (from compression of the vena cava), and irregular in contour. The form has changed by development from coalescence, interpolation, isolation, and transportation of ganglia along visceral vessels, the vertebral column and ribs.

The Borders.—The borders of the abdominal brain (margo cerebri abdominalis) are four, viz.: proximal, distal, and two lateral. (*a*) The proximal border presents three factors of interest. The first is the concave horseshoe-like depression made in it by the celiac axis and the surrounding of the vessel like a collar by nerve cords and ganglia in a connective tissue sheath. The other two factors are the cone-like projections of a portion of the brain which emits bilaterally the nervus (plexus) diaphragmaticus. The proximal border receives the continuation of the nerves of plexus aorticus thoracalis as well as the termination of the right vagus (cranial), and also communication may occur with the right nervus phrenicus. The proximal border is generally blunt and rounded. Practically the plexus gastricus is emitted from its proximal border. (*b*) The lateral border (left) presents quite an uneven line, with irregular projections for efferent nerves chiefly destined to the adrenals and kidneys, and for afferent nerves, especially the major splanchnic. The main projections along its border are those produced by the ganglion splanchnicum and ganglia renalia. (*c*) (right). The lateral border is generally an irregular line caused by the irregular size and location of the ganglion splanchnicum and ganglion adrenalis. The lateral borders receive (afferent) nerves (splanchnic major) and emit (efferent) nerves (plexus adrenalis and plexus renalis). (*d*) The *distal* border is bounded by the arteria renalia—practically an even line. It emits or distributes efferent nerves of various caliber to the abdominal visceral tracts.

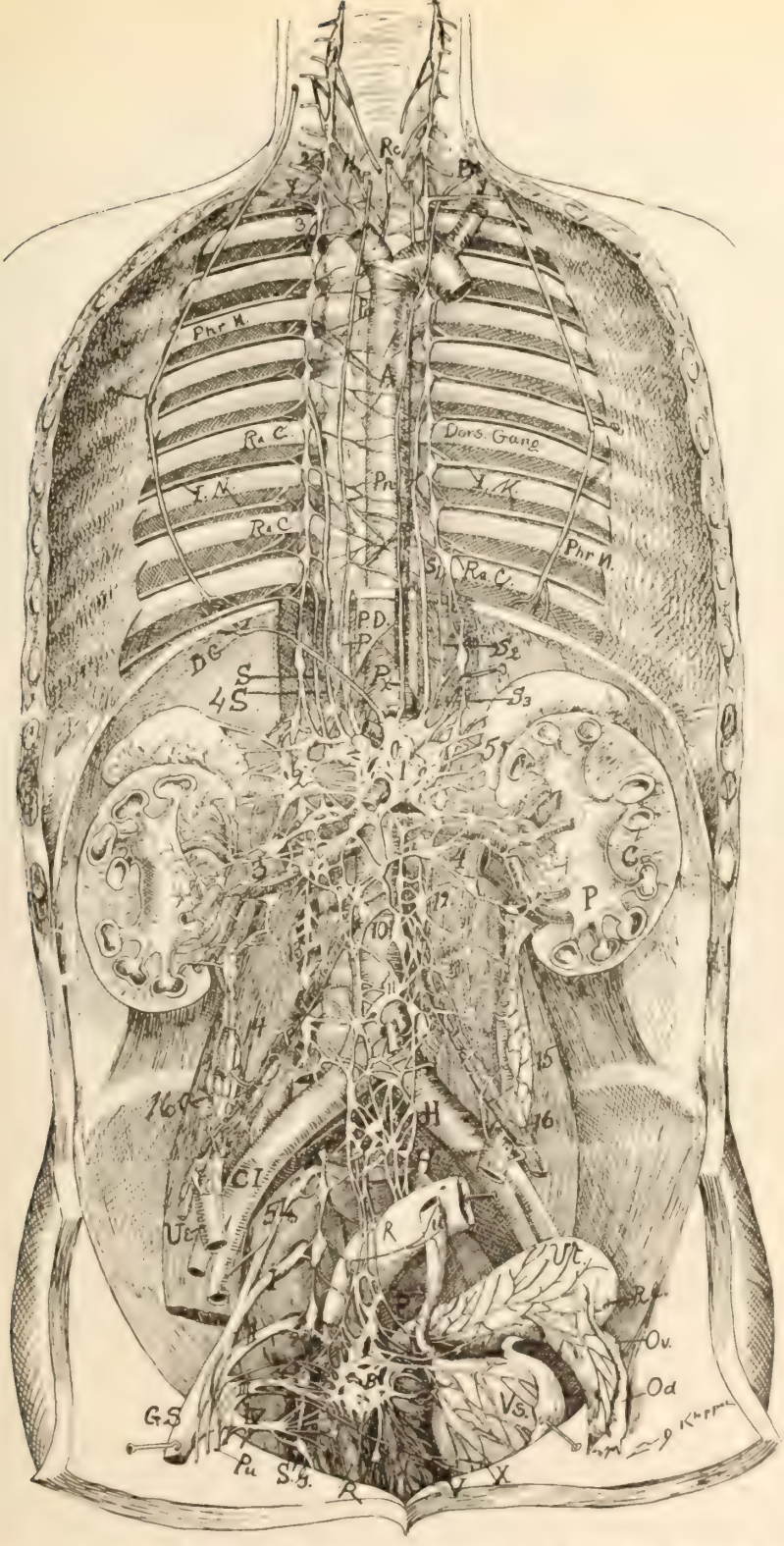

FIG. 1.—ABDOMINAL BRAIN. An illustration of the sympathetic nerve solar plexuses and pelvic brain. In this specimen the ureters, kidneys, pelvis, and uterus (*Ut*) were dilated to the dimensions of an index finger, the classical or the respective diameters presenting no sphincters intact. This subject possessed a typical abdominal brain (1 and 2) as well as a well-marked pelvic brain (*H*). The ganglion hypogastricum (*H*) is well marked. This illustration presents in view well the abdominal sympathetic with their varied anastomoses. The great ganglionic masses of the abdomen (1 and 2) and pelvis (*H*) are evident. It presents a general outline of its nervous organization. I secured this specimen from an autopsy through the courtesy of Drs. W. A. Evans and O'Byrne.

Fenestræ.—The compact left half of the abdominal brain may be limitedly perforated, while the widely meshed right half is considerably fenestrated with larger and smaller, irregular-shaped apertures adding unevenness to the surface. The fenestræ possess sloping, smooth, irregular contoured edges and are occupied with connective tissue, blood and lymph vessels, glands, and areolar tissue. The chief central fenestræ are produced by the celiac axis and superior mesenteric artery. The left half of the brain generally has one major fenestra due to a blood-vessel springing from the aorta. The right half of the brain possesses some three definite apertures, or fenestræ, and several irregular large ones. In general the right half possesses two kinds of fenestræ, viz.: (smaller) those in the more solid median division of the brain, and (larger) those in the lateral, more widely meshed portion. The splanchnic ganglia, located at the termination of the splanchnic nerves, are situated in the middle of the celiac plexus and represent the major ganglionic masses.

The Surfaces.—The surfaces of the abdominal brain (facies cerebri abdominis) consist of two, viz.: (*a*) the ventral, (*b*) the dorsal. The ventral surface is uneven, from coalescence of smaller and larger ganglia, irregular coalescence, compression of adjacent viscera (as the inferior vena cava), or dislocation of ganglia by transportation along vessels. The ventral surface is convex from the dorsal compression of the aorta and crura diaphragmatica. The ventral surface receives (afferent) and emits (efferent) nerves; also may be observed nerve loops which originate and insert themselves on the ventral surface. From the ventral surface pass the nerves to the adrenal, pancreas, and plexus renalis—in fact, the nerve plexuses accompanying the branches of the celiac axis and many of the plexus mesentericus superior from the ventral surface. The surface is solidly bound by connective tissue to adjacent structures. The ventral surface of the left half of the abdominal brain is concave from the contact pressure of the cylindrical aorta and crura diaphragmatica.

The fenestræ or perforations of the dorsal surface correspond with those of the ventral. Strong, fine white strands of connective tissue, blood, nerves, and lymph vessels bind the dorsal surface of the abdominal brain solidly to the crura diaphragmatica, but especially strong to the aortic. Nerves originate and depart from the dorsal surface. From the dorsal surface nerves depart to the aorta and diaphragm and the splanchnicus major, bilaterally, arrives on the dorsal surface.

Ganglia.—There are usually six constant ganglia in the

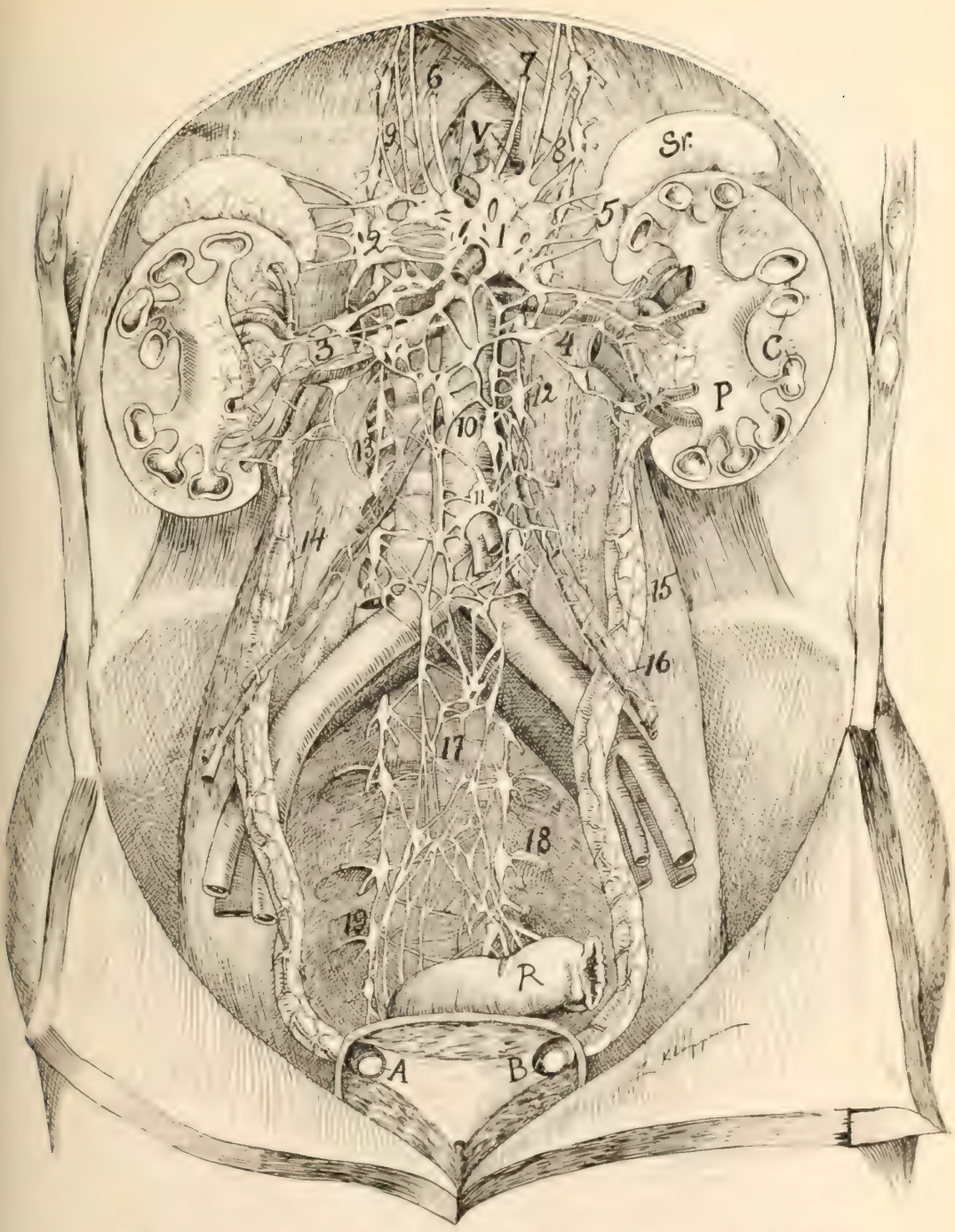

FIG. 2. ABDOMINAL BRAIN. This is a drawing from a subject possessing a typical large abdominal brain with the ureter, bladder, and urethra dilated into a single channel without sphincters intact. 1 and 2, abdominal brain, 3 and 4, renal plexuses, 5 plexus adrenalis, 6 and 7, the two vagi, 8 and 9, the three splanchnics to each side, 10, the two spermatic ganglia, 11, inferior mesenteric ganglia, 12 and 13, lumbar 'lateral' chain of ganglia, 14 and 15, dilated ureters wrapped by ureteral plexuses, 16, utero-ureteral crossing, 17, hypogastric plexuses, 18 and 19, sacral chain of lateral ganglia, A and B, tubulous ureteral orifices. This specimen represents the lower portion of the sympathetic and its relation to the abdominal brain. On the right side the adrenal receives two branches from the abdominal brain. On the left side the adrenal receives four nerves from the abdominal brain. Observe the large and numerous renal ganglia. The left half of the abdominal brain (1) is more prominent and greater in diameter than the right, while the right half (2) is greater in surface, less compact, and more reticulated than the left.

abdominal brain, viz.: (*a*) Ganglia diaphragmatica (paired); (*b*) ganglia splanchnica (paired); (*c*) ganglia renalia (paired). They are solidly and compactly united into one anatomic and physiologic nerve center—a brain. In general the ganglia do not agree in form or dimension bilaterally. Practically the ganglia agree in position bilaterally. However, the left semilunar ganglion is nearer the median line than the right, and the left mainly lies on the aorta, while the right chiefly rests on the crus of the diaphragm. The ganglia may rest in an even transverse plane, or lie in superimposed layers in a dorsoventral plane. The ganglia constituting the abdominal brain are as irregular and variable as the plexus in which they are located. The ganglia consist of large, swollen cords, or ganglionic arches or circles arranged in a network. The dimension, form, and number of the ganglia may vary from coalescence, isolation, interpolation, or transportation of ganglia along vessels, bones, and muscles. The coalescence of the ganglia may proceed to such an extent that the abdominal brain will present the appearance of several nodes, or the two semilunar ganglia may coalesce and lie between the celiac and superior mesenteric arteries.

The ganglia may coalesce proximally and distally in the form of a ganglionic ring surrounding the origin of the celiac and mesenteric arteries. The ganglia of the abdominal brain may be flat or elevated, single or multiple, united by gangliated commissures or flattened nerve strands. The nervus splanchnicus major, the essential segment, terminates bilaterally in the abdominal brain in a large semilunar or quadrilateral-shaped nodule—ganglion splanchnicum (paired). The splanchnic ganglia may assume the shape of the letter C. I have seen two splanchnic ganglia on each side of almost equal dimensions formed by the splanchnic major and minor nerves.

1. The *left* semilunar ganglion has a more definite border, is nearer to the median line, greater in dorsoventral diameter, more compact, yet smaller and less fenestrated than the right. It lies transversely on the side of the aorta between the renal and diaphragmatic arteries. Its average diameters are: proximodistal, ½ inch; transverse, 1 inch; dorsoventral, 1/6 inch. Its thickest border is the left, its thinnest is the right. Its ventral surface is uneven, convex; the dorsal, concave. It is flask or quadrilateral in form. The right proximal angle is elongated into a horn-like process to join its opposite fellow. Afferent nerves arrive and efferent nerves depart from all surfaces and borders except part of the left. *Proximally* it is connected with

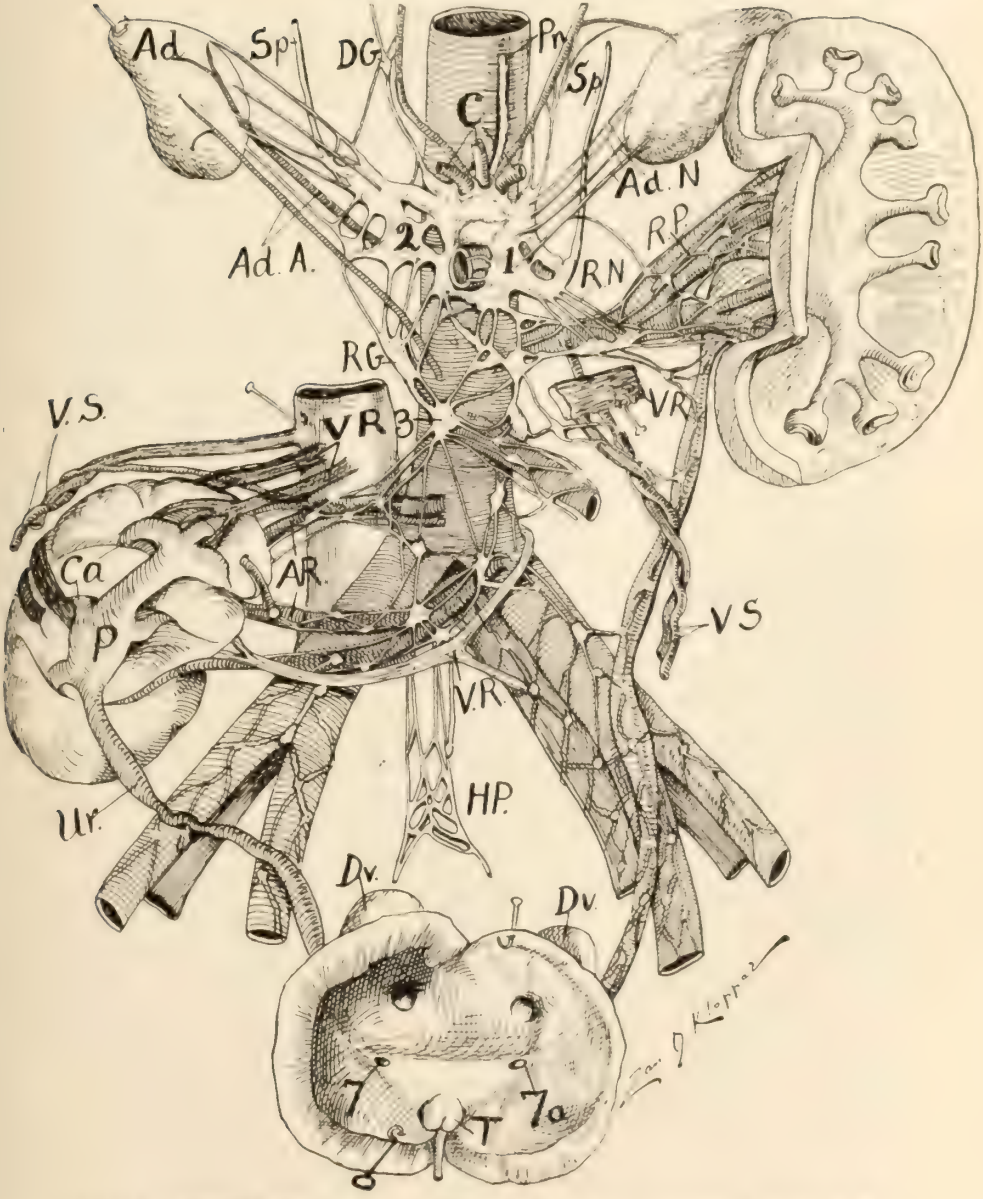

FIG. 3. ACCESSORY BRAIN. This illustration is drawn from a specimen I secured at an autopsy through the courtesy of Drs. Lyons and O'Brien. The right kidney was dislocated, resting on the right common iliac artery, with its pelvis (P) and ureter facing ventralward. The adrenal (Ad.) remained in [illegible]. It was a congenital renal dislocation, and was accompanied with congenital malformations in the sympathetic nerve, or nervus vasomotorius. 1 and 2 is the abdominal brain. It sends five branches to the adrenal from the right half (2). Though the sympathetic system is malformed, yet the principal rules as regards the sympathetic ganglia still prevail, viz., a ganglia exist at the origin of abdominal visceral vessels, e.g., 3, at the origin of the inferior mesenteric artery, at the root of the renal vessels, HP, is no doubt the ganglion originally at the root of the common iliacs (removed). In this specimen the right ureter was five inches in length, while the left was [illegible]. This specimen demonstrates that the abdominal brain is located at the origin of the [illegible] and superior mesenteric vessels, i.e., it is a vasculiac brain (vasomotor system).

the diaphragmatic ganglion—externally with the splanchnic nerve, medially with the opposite fellow (right half of brain).

2. The *right* semilunar ganglion is more flattened, greater in surface area, more extensively fenestrated, and less in dorso-ventral diameter than the left. It lies between the vena cava (ventral) and right crus of the diaphragm (dorsal), and between the renal and diaphragmatic arteries. Afferent nerves arrive and efferent nerves depart from its surfaces and borders. The left, proximal, angle is prolonged into a horn-like process to join its opposite fellow. Proximally it is connected with the diaphragmatic ganglion; distally with the renal ganglion; externally with the splanchnic nerve; and medially with the opposite fellow (left half of the brain).

3 and 4. The *diaphragmatic* ganglia are practically bilaterally symmetrical in location, form, and dimension. They project as pyramids or cones from the proximal border of the semilunar ganglia, at the origin of the diaphragmatic arteries, giving origin in the diaphragmatic nerve. They project from the abdominal brain as the olfactory projects from the cranial brain—being a part of it. The diaphragmatic nerve possesses a small ganglion some 2½ inches from its origin, and it anastomoses with the right phrenic.

5 and 6. The *primary renal* ganglia are practically bilaterally symmetrical in form, location, and dimension. Their location is generally at the origin of the renal arteries.

I. The ganglia of uncertain dimension, location, and form associated with the abdominal brain are: (*a*) The nervus splanchnicus minor terminates bilaterally more distalward generally on the renal arteries; (*b*) the ganglion suprarenale supernum, which I have occasionally found chiefly on the right suprarenal nerves. The *color* of the abdominal brain is grayish-red; the *consistence* is moderately dense, due to the presence of abundant connective tissue; the *composition* consists of an aggregation of nerve ganglia, ensconced in dense connective tissue, varying in dimension, number, and form. Each ganglion is composed of oval-shaped nerve cells of various form and dimension.

Relations.—The relations of the abdominal brain well encased in fibrous and connective tissue consist in intimate connection with the abdominal aorta at the origin of the celiac axis, superior mesenteric and renal arteries. It has also intimate but less solid connections with the vena cava and renal veins. It is a vascular brain of the abdomen. The abdominal brain lies in the square formed by the proximal renal poles with adrenals

and the renal arteries. It is in relation to the dorsal surface of the body of the pancreas, peritoneum, and stomach. The abdominal brain in general occupies the space including the origin of the major visceral arteries, viz.: (*a*) arteria cœliaca; (*b*) arteria mesenterica superior; (*c*) arteria renalis—three mighty visceral arteries originating from the aorta within the space of an inch and a half. Hence practically the term abdominal brain should include the aggregated or coalesced ganglia located at the origin of the major visceral vessels. With development of viscera and elongation of visceral arteries, the ganglia become isolated from the original abdominal brain and transported along the vessels toward the viscera.

The two best examples are the renal and aortic arteries with their numerous transported large ganglia—ganglia renalia and ganglia aortica. Development has sometimes separated the cord and ganglion of the nervus splanchnicus minor from the abdominal brain by placing it more distalward and lateralward toward the region of the origin of the arteria renalis, thus altering the form and contour of the abdominal brain. The nerve plexuses and ganglia of the abdominal brain, firmly bound in sheaths by strong white connective and elastic tissue, encase the visceral vessels and accompany them to the viscera. The abdominal brain is solidly and compactly anastomosed, connected by nerves of various caliber with all the abdominal viscera, viz., tractus intestinalis, urinarius, genitalis, vascularis, lymphaticus. It is evident from its location at the origin of the celiac axis and superior mesenteric arteries that the abdominal brain in its origin was a primitive brain for the tractus vascularis. With development of viscera and elongation of visceral arteries, dislocation, multiplication, distribution, coalescence or transportation of ganglia, other viscera have acquired local ganglionic rulers, *e.g.*, the pelvic brain—ganglion cervicale. However, present conditions allow the origin of the abdominal brain to remain at the exit of the major visceral vessel. It should be denominated a vascular brain.

From the abdominal brain radiate plexuses of various caliber, chiefly in vessels, to all the abdominal viscera, viz., tractus intestinalis, genitalis, urinarius, vascularis, and lymphaticus. The abdominal brain emits more nerves than it receives, and hence is a creating, producing center, a source for new and increased nerves. Nerve reception occurs chiefly at the proximal (plexus aorticus thoracalis, vagi) and lateral borders (splanchnics, major, medius, minor). Nerve emission occurs mainly at the

distal (plexus aorticus abdominalis) and lateral borders (plexus renalis, adrenalis). From the dorsal and ventral surface, from the bilateral proximal and distal borders of the abdominal brain, nerves arrive and depart. Bilaterally radiate the renal and adrenal nerves, and arrive the splanchnicus; proximally radiate a few to the aorta, and arrives the plexus aorticus thoracalis and vagi; dorsally many nerves pass to the aorta and diaphragm, and arrive the branches from the splanchnics; ventrally a number of nerves radiate to the adrenals and pancreas; distally are emitted nerve plexuses of vast importance on visceral arteries of corresponding names, viz.:

I. *Tractus intestinalis:* (1) Plexus cœliacus, emitting (*a*) plexus gastricus accompanying the arteria gastrica; (*b*) plexus hepaticus accompanying the arteria hepatica; (*c*) plexus lienalis accompanying the arteria lienalis. (2) Plexus mesentericus superior accompanying the arteria mesenterica superior (to the enteron—except the duodenum, and colon, except the cæcum, right colon and right half of transverse colon). (3) Plexus mesentericus inferior accompanying the arteria mesenterica inferior (to the left half of the transverse colon, left colon, sigmoid flexure, and rectum).

II. *Tractus urinarius:* (1) Plexus adrenalis accompanying the arteria adrenalis. (2) Plexus renalis accompanying the arteria renalis. (3) Plexus ureteris accompanying: (*a*) rami arteries renales; (*b*) arteria ovarica; (*c*) arteria ureteris media (from common iliac); (*d*) arteria uterina. (4) Plexus hæmorrhoidalis accompanying the arteria hæmorrhoidalia. (5) Plexus hypogastricus accompanying the arteria hypogastrica. (6) Pelvic brain (ganglion cervicale) emits nerves which pass directly to the ureter without accompanying blood-vessels as well as the plexus vesicalis. (7) Plexus vesicalis accompanying the arteria vesicalis superior, media, and inferior (hemorrhoidal). (8) Plexus urethralis (a continuation of the plexus vesicalis) accompanying arteria pudenda.

III. *Tractus genitalis:* (1) Plexus aorticus accompanying the arteria aortica abdominis. (2) Plexus hypogastricus (a continuation of the plexus aorticus) accompanying the arteria iliaca communis and arteria hypogastrica. (3) Plexus ovaricus accompanying the arteria ovarica. (4) Plexus arteriæ uterinæ accompanying the arteria uterina. (5) Cerebrum pelvicum (pelvic brain), which emits the plexus uterinus without accompanying vessels as well as the plexus vaginalis. The sympathetic nerve cords and ganglia accompanying vessels (blood, particu-

larly arteries and lymph) arranged as a network in a connective tissue sheath which encases the vessel.

(B) PHYSIOLOGY OF THE ABDOMINAL BRAIN.

In mammals there exist two brains of almost equal importance to the individual and race. One is the cranial brain, the instrument of volitions of mental progress and physical protection. The other is the abdominal brain, the instrument of vascular and visceral function. It is the automatic, vegetative, the subconscious brain of physical existence. In the cranial brain resides the consciousness of right and wrong. Here is the seat of all progress, mental and moral, and in it lies the instinct to protect life and the fear of death. However, in the abdomen there exists a brain of wonderful power maintaining eternal, restless viligance over its viscera. It presides over organic life. It dominates the rhythmical function of viscera. It is an auto-

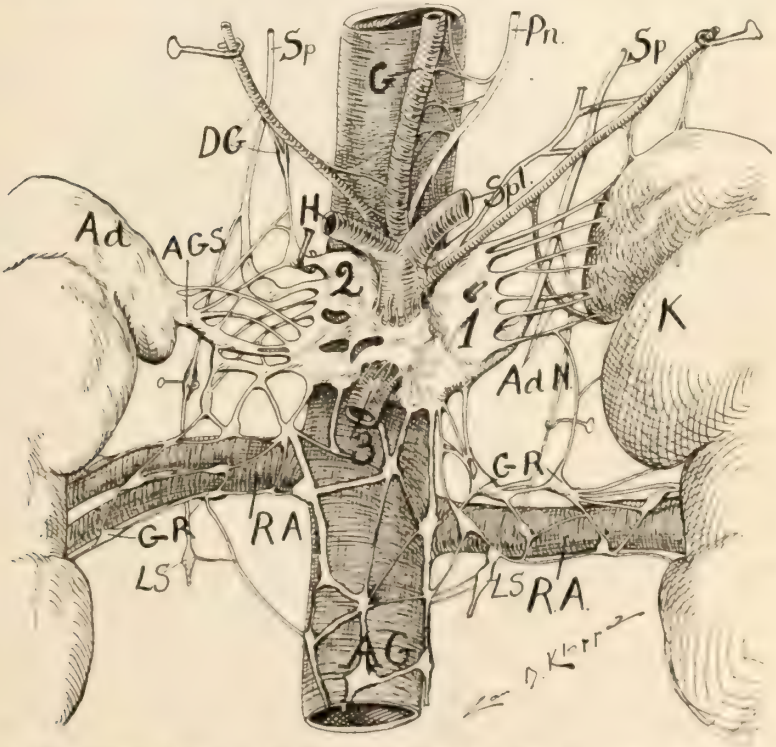

FIG. 4.—ABDOMINAL BRAIN.—This illustration was drawn from a carefully dissected abdominal brain. I dissected the tissue under alcohol. The relations and properties are those of life, being drawn by accurate measurements. 1 and 2, abdominal brain. Observe the nerves which the adrenals receive. *Sp*, splanchnic nerves; *Pn*, greater diaphragmatic nerve; *GR*, semi-ganglia; *Ad*, adrenals; *LS*, lesser splanchnics; *RA*, afferent renales; *H*, hepatic; *G*, gastric; and *Spl*, splenic arteries.

matic nerve center, a physiologic and an anatomic brain. Being located at the origin of the celiac, superior mesenteric, and renal arteries—the major abdominal visceral arteries—it is a primary vascular brain of the abdomen and a secondary brain for visceral rhythm. The abdominal brain presides, as the central potentate, over the physiology of the abdominal viscera. The common functions of these viscera are rhythm, secretion, and absorption, and to preside over this triple office is the chief duty of the abdominal brain. To the common functions of the abdominal viscera must be added the special functions of the tractus genitalis—ovulation, menstruation, gestation; however, many of the functions of the visceral tract are delegated to the subordinate local ruler—the pelvic brain. The abdominal brain is a receiver, a reorganizer, an emitter of nerve forces. It has the powers of a brain. It is a reflex center in health and disease. The sympathetic abdominal nerve alone possesses the power of rhythm. Every organ possesses rhythm. In this rhythm of involuntary visceral muscles is doubtless included the factors of initiation, maintenance, and conclusion of visceral absorption and secretion. The rhythmic, peristaltic muscles massage the glands, inciting their function of secretion and absorption.

The individual functions of the abdominal brain are numerous and important, viz.: (1) It is the source of new nerves, as it possesses more efferent than afferent nerves. (2) it demedullates nerves; nerves enter sheathed and depart unsheathed. (3) It presides over the rhythm, peristalsis, of visceral muscles. (4) It presides over the absorption and secretion of visceral glands—*e.g.*, the glands lining tubular viscera and those denominated glandular appendages. (5) The abdominal brain is a giant vasomotor center, controlling the caliber of the abdominal vessels (blood and lymph); it should be termed *nervus vasomotorius*. (6) It possesses nutritive powers over the nerves passing from it to the periphery. (7) It is the major abdominal reflex center.

The abdominal brain is not a nerve agent of the brain and cord; it receives and generates nerve forces itself; it presides over nutrition. It is the center of life itself. In it are repeated all the physiologic and pathologic manifestations of visceral function (rhythm, absorption, secretion, and nutrition). The abdominal brain can live without the cranial brain, which is demonstrated by living children being born without cerebrospinal axis. On the contrary the cranial brain cannot live without the abdominal brain. The central idea founded in the abdominal brain

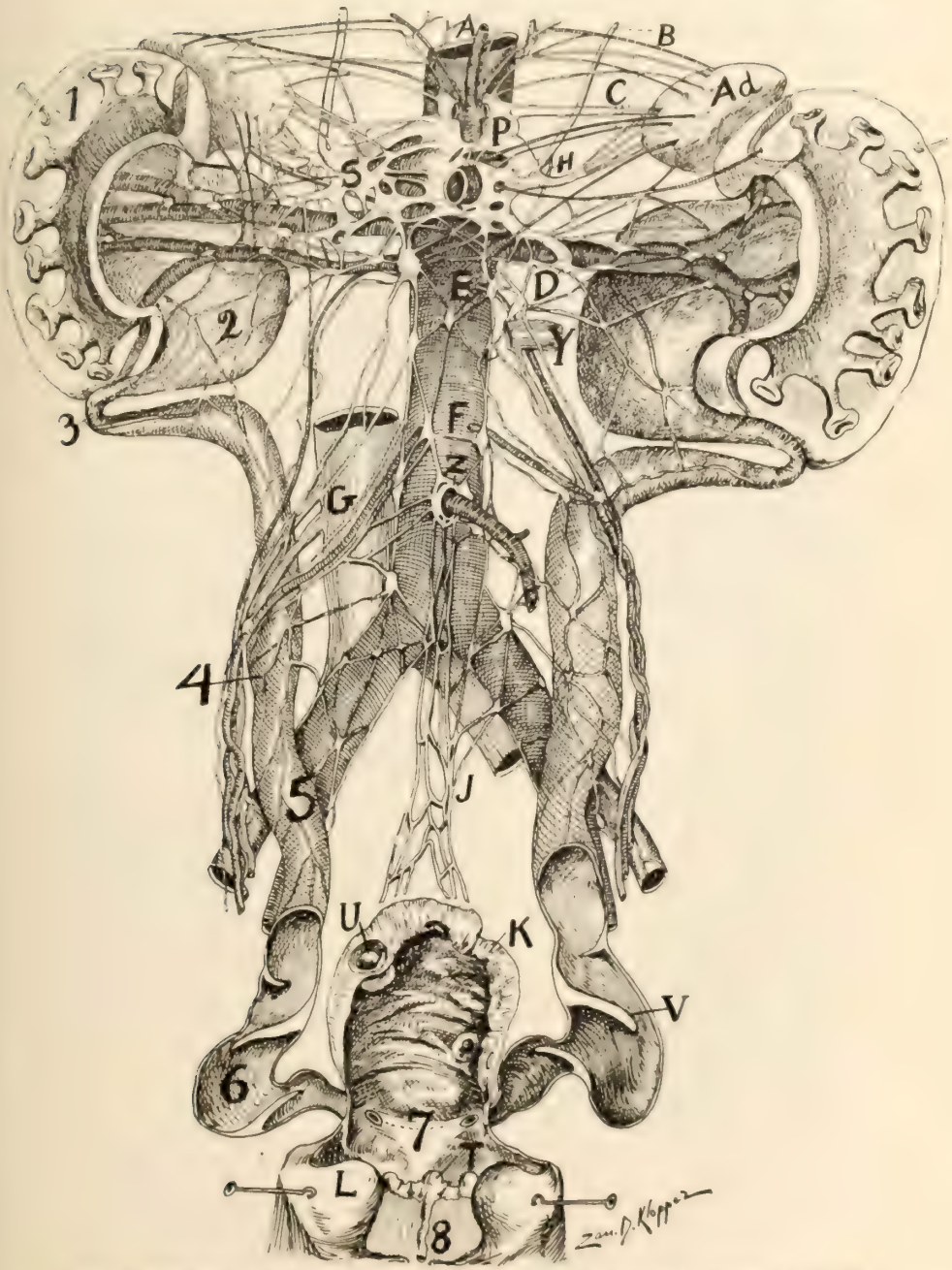

FIG. 5.—ABDOMINAL BRAIN (S. P.). This illustration was drawn from a specimen I secured at autopsy through the courtesy of Dr. W. A. Evans. It is not a typical abdominal brain, on account of the peculiar method of emission of the adrenal nerves (C). Two on the left side and 14 on the right side. The right side presents duplicate renal and **spermatic arteries. This is a typical subject to demonstrate the abdominal brain**, as a vascular brain (cerebrum vasculare or cerebrum vasomotorius), as it is located at the **origin of the abdominal visceral vessels, viz., renal, celiac, and superior mesenteric** arteries. *B*, splanchnic major; *H* splanchnic minor; *D*, renal ganglia. This specimen presents what I term the swan's neck shaped ureters (2). Note ureteral valves (5 and 6) and dilated ureters. The bladder and prostate are hypertrophied. The ureters present a network of nerves surrounding them. Observe the large renal ganglion on the ventral surface of the renal artery at *D*.

should entitle it, in my opinion, to the name vascular or vasomotor brain of the abdomen (cerebrum vasculare abdominale). It initiates, sustains, and concludes visceral rhythm (the peristalsis of involuntary, visceral muscles)—*e.g.*, in the tractus vascularis, intestinalis, genitalis, and urinarius. It presides over the absorption and secretion of the viscera—*e.g.*, the mucous glands of the tubular viscera and visceral glandular appendages. It is evident from the great volume of blood occasionally found in the vastly distended abdominal veins at autopsy that a subject could bleed to death in his own abdominal vessels. The abdominal brain, the vascular cerebrum, is responsible for this condition, having forgotten, from paralysis, to control the lumen of the vessels. From the anatomic vascular connection it is impossible to extirpate the abdominal brain from living animals, hence the reports of experimentation accompanied with its extirpation are unreliable. The abdominal brain is the nervous executive of the abdominal vessels and viscera, the duties of which are to see that the functions of the viscera (rhythm, secretion, and absorption) are faithfully executed. The abdominal brain assumes practically an independent existence; however, the cerebrospinal axis asserts a controlling influence over it. For example, in children whose cerebrospinal axis is not completely developed, and at death of adults, when the cerebrospinal axis has lost its complete control, the intestines will mutiny, assuming a wild, disordered, violent peristalsis, resulting in intestinal invagination.

The utility of the abdominal brain in practice is important—for example, in postpartum hemorrhage the older practitioners taught that by compression of the aorta the hemorrhage was checked. This, of course, is an error, as the technique, if it were possible to execute, would not materially affect the bleeding, as ovarian blood-supply would continue. The physiologic explanation of checking postpartum hemorrhage by pressure over the abdominal aorta is that the manipulation stimulates the plexus aorticus and plexus hypogastricus, which is transmitted to the pelvic brain, where it is reorganized and transmitted over the plexus uterinus to the myometrium, the elastic and muscular bundles of which being excited contract like living ligatures, checking the postpartum hemorrhage by diminishing the lumen of the vessels. The irritation, pressure, or trauma of the head of the child on the expanding cervix uteri during the last month of gestation precipitates labor by its effect on the pelvic brain (and consequently on the abdominal brain), by inducing

vigorous, persistent uterine contractions. In feeble labor pains, during uterine inertia, vigorous uterine contractions may be excited by the finger per rectum or per vaginam, irritating or massaging the pelvic brain. The pelvic brain is palpated with facility, as it is located on the lateral vaginal fornix. Again,

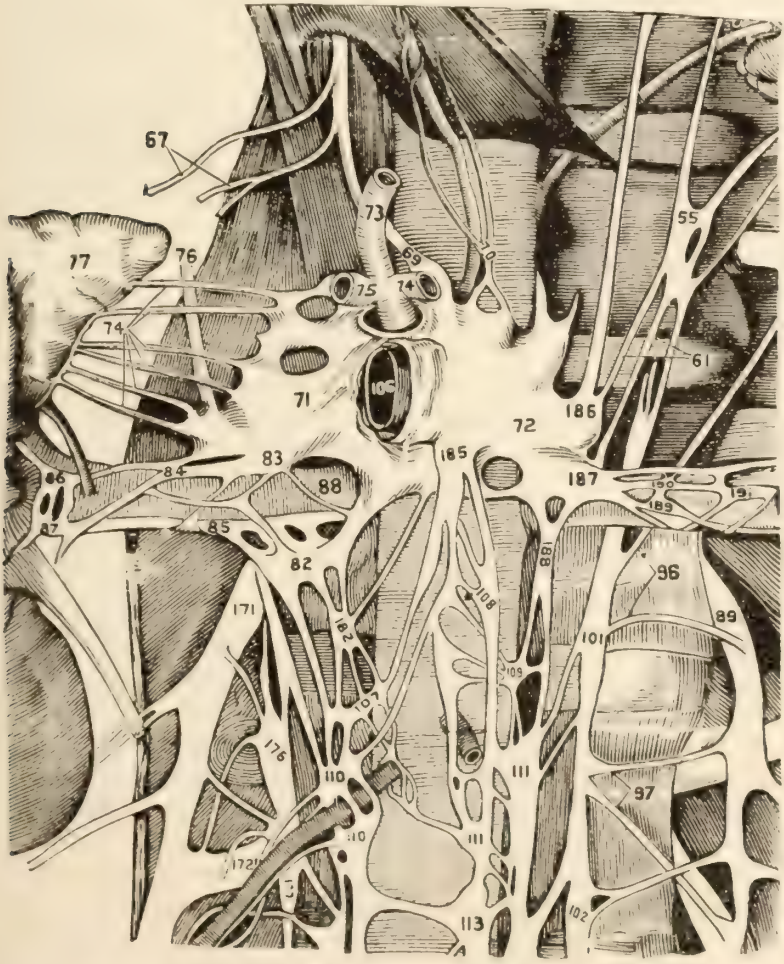

FIG. 6. ABDOMINAL BRAIN. (Byron Robinson.) This illustration, drawn from a cadaver, illustrates the location, relations, and radiating plexuses of the solar plexus, or abdominal brain (74 and 75), which is built around the major visceral arteries, the coeliac (73, 74, 75), superior mesenteric (106), and renal (88) arteries. Hence it dominates the visceral function, as to vascularity (blood and lymph), peristalsis, absorption, and secretion. The chief manifestations of the abdominal brain are extensive as is that of the abdominal viscera. This ganglion of the first magnitude presents radiating plexuses to all the abdominal viscera, presenting an exquisitely balanced and poised nervous mechanism, controlling vascularity (blood and lymph), peristalsis, absorption, and secretion. 76 and 185, splanchnic nerves. 110, 111, sacrals. The body from which this dissection was drawn possessed what the nerves as noted by the majesta ganglion the abdominal brain the left vagus

the pelvic brain is subordinate to the abdominal brain; however, the pelvic brain must be intact to allow physiologic orders to pass from the abdominal brain through the pelvic brain to the uterus. For example, during labor sudden cessation of uterine peristalsis may occur—uterine inertia. The probable explanation is that as the head passes through the pelvis it traumatizes the pelvic brain, producing temporary paresis from pressure, and partially checks the uterine rhythm. With the progress of labor the pelvic brain recovers and its dynamics resume.

The temporary paresis of the pelvic brain does not produce complete paralysis, because a few of the nerves of the plexus hypogastricus (directly from the abdominal brain) pass to the uterus without first entering the pelvic brain. The abdominal brain rules the physiology of the abdominal visceral tracts. The methods to utilize the physiology of the abdominal brain in practice are varied. For example, the mammary gland is connected to the abdominal brain by at least three distinct routes, viz.: (*a*) via the nerve plexuses accompanying the arteria mammaria and arteria subclavia, whence the route is direct to the abdominal brain; (*b*) via the nerve plexuses accompanying the arteriæ intercostales to the aorta and its plexus, whence the route is direct to the abdominal brain; (*c*) via the nerve plexuses accompanying the arteria epigastrica superior and inferior to the common iliac, whence the route (plexus) continues on the artery of the round ligament to the plexus uterina, whence the route is direct to the pelvic brain or abdominal brain. Therefore, by stimulating or irritating the nipple with light friction or massaging the mammary gland, the abdominal brain is reached by the above three routes, and consequently the uterus is induced to contract more frequently, and if the experiments be not repeated too rapidly, the uterine contraction will be more vigorous. Again, the uterus may be incited to more frequent and vigorous contractions by administering a tablespoonful of hot fluid, which first emits the stimulation over the plexus gastricus to the abdominal brain, where it is reorganized and sent directly to the plexus uterinus, which incites the uterus to increased peristalsis. The reverse physiology of the influence of visceral tumors or pregnant genitals stimulating the mammary gland (over the above three routes) is evident. The tumor or fetus in the genitals rapidly induces the mammary gland to manifest objective disturbances of dimension, circulation, color, palpation, as well as sensory disturbances.

Practically the uterine nerves originate in the abdominal

brain and possess a relative independent existence. Children are born, expelled, from the uterus after the death of the mother. Hyrtl, the celebrated Viennese anatomist, reports that during a war with Spain some bandits hanged a pregnant woman. After she had hung on the gallows for four hours, and consequently was long dead, she gave birth to a living child. I have observed the giant uterus of slaughtered pregnant cows executing with wondrous precision its rhythm hours subsequent to death and evacuation of uterine contents. If one will extirpate an oviduct from a human and place it in warm normal salt solution, oviductal rhythm may be maintained by physical stimulus—*e.g.*, tapping with the scalpel—for some three-quarters of an hour. If one will chloroform a dog to death and incise the abdominal wall, exposing the intestines, in a room of 70°, the intestines will perform their rhythm, on being tapped with the scalpel, for an hour and a half. The large urinary vesical apparatus of steers will perform rhythmical movements for half a dozen hours after death in summer temperature.

The anatomic location and the physiologic function of the abdominal brain dignify it into a basic factor in diagnosis from pain. For example, practically all acute inflammatory pain (localized peritonitis, visceral perforation) or violent visceral irritation (calculus, volvulus, invagination, acute strangulation, obstruction) is first experienced in the epigastric region—*i.e.*, reorganization occurs in the abdominal brain. This means that all visceral pain, irritation, is first transmitted to the abdominal brain, where it is reorganized and emitted to the abdominal viscera, diffusing the wild, disordered, violent peristalsis (colic) universally in the abdomen, which prevents the localizing of the pain by the diagnostician. With the progress of the disease the abdominal brain and associated nerve apparatus become accustomed to the new experience and the pain becomes intensified, localized on definite nerve plexuses, whence the pain, tenderness, can be diagnosed by distinct circumscribed localization. The best example of this view is appendicitis.

The abdominal brain is the seat of shock. A blow over the epigastrium, violent trauma to the abdominal brain, may cause immediate shock, collapse, or death. I performed an autopsy on a subject where invagination of the uterus had killed the patient in two and a half hours. Death was due to shock in the abdominal brain, transmitted to it over the hypogastric plexus from the traumatized (invaginated) uterus.

CONCLUSIONS AS REGARDS THE ABDOMINAL BRAIN.

The abdominal brain is a nervous center—*i.e.*, it receives, reorganizes, and emits nerve forces.

The abdominal brain is the nervous executive for the common functions of the abdominal viscera, as rhythm, absorption, and secretion.

The abdominal brain was originally in function and location a vascular brain—cerebrum vasculare. Though complicated functions have been added yet it is still a primary vasomotor center controlling the caliber of the blood-vessels and consequently the volume of blood to viscera, which determines visceral function.

The abdominal brain is a reflex center in health and disease.

It is the major assembling center of the abdominal sympathetic.

The abdominal brain is the seat of shock. A blow or trauma on it may cause shock, collapse, or death.

It is the automatic, vegetative, the subconscious brain of physical existence. It is the center of life itself.

In the abdominal brain are repeated all the physiologic and pathologic manifestations of visceral function—rhythm, absorption, secretion, menstruation, gestation, ovulation.

The abdominal brain can live without the cranial brain (and spinal cord), for children have been born alive with no cerebrospinal axis. Children have been born alive hours after the mother was dead.

The abdominal brain may be the agent of valuable therapeutics—*e.g.*, in postpartum hemorrhage massage of the aortic plexus will stimulate the abdominal brain to control the blood-vessels of the uterus. Massage of the aortic plexus will stimulate the abdominal brain to send blood to the viscera, enhancing rhythm, secretion, and absorption, improving constipation and increasing visceral drainage.

The abdominal brain is the primary agent of rhythmic visceral motion. A wide office of the physician is to maintain regular visceral rhythm by means of rational therapeutics, as regular habits and exercise, wholesome coarse food, ample fluids, and proper rest.

HYPERTROPHY OF THE FAUCIAL AND PHARYNGEAL TONSILS.

BY R. D. ALWAY, M.D., ABERDEEN, SOUTH DAKOTA.

There is to-day a most striking amount of hypertrophy of the faucial and pharyngeal tonsils in the human family, especially in children, and this fact is brought to the attention of the physician, one way or the other, every day. I do not expect to offer any original ideas in this paper, as the subject has for several years been on the programme of medical societies, and fully discussed in the medical journals; but on account of its frequency and importance we may, by exchanging ideas, become more thorough in our work.

Let us first consider the anatomy and physiology of this subject. At certain points in the pharynx are found conglomerate masses of lymphoid tissue, forming a continuous lymphoid ring around the entrance to the alimentary and respiratory tracts. The sides of this ring are formed by the faucial tonsils, the upper segment by the pharyngeal tonsil, and the lower segment, or base, by the lingual. The faucial tonsils are small, almond-shaped masses, placed within the triangular or boat-shaped space, between the palatopharyngeal and palatoglossal muscles. In size they vary, even within normal limits. Their average size is given as three-quarters of an inch in length and one-third of an inch in breadth. Their free surface is marked by numerous round or slit-like openings, which lead down into invaginations of the surface, called crypts. This peculiar structure is claimed to be the result of an ingrowing of the epiblastic membrane into the hypoblast. The epithelial elements are thus forced into a lymphoid mass, and the latter grows around the invagination or into their wall, breaking up their outline into small lateral pockets. The covering of the faucial tonsil consists of the pharyngeal mucous membrane; in many instances, however, this is underlaid by bands of fibrous tissue, which more or less fully encapsulate the lymphoid masses.

The principal blood-supply of the faucial tonsil is from the facial artery, by its branch, the tonsillar; it also gets blood from the lingual, external carotid, and internal maxillary.

The upper segment of this lymphoid ring, which constitutes the pharyngeal tonsil, is located in the center of the superior and posterior walls of the nasopharynx, and spreads laterally on either side to the recesses above the lips of the Eustachian open-

ings, and even into the fossa of Rosenmuller. It consists of lymphoid cells, with a rather poor blood-supply, covered with stratified columnar epithelium.

Etiology.—It is a disease of early childhood, and is most common between the ages of two and fifteen. Meyer observed less than 37 per cent under ten years of age, and less than 62 per cent under fifteen. Bosworth's statistics show less than 30 per cent under fifteen. In 90 per cent of his cases the disease certainly developed in infancy or early childhood. Brindel finds that adenoids are uncommon up to three years of age, but are common between the ages of eleven and fourteen.

In children the lymphatic tissue is especially susceptible to vascular changes on comparatively slight causes, and the repeated colds from which they suffer keep the lymphoid tissue of the pharynx congested, and overgrowth is the result. In adults a condition of modified hypertrophy is frequently seen, which may have developed after puberty, or may have existed from childhood, unnoticed.

Heredity is attributed by many to have an influence. Hajek found about 10 per cent of his cases were apparently of hereditary origin. Price Brown and Delevan lay great stress on heredity as an element of causation. It is observed that the high arched palate, characteristic of many mouth-breathers, can be found in several members of a family, and such a condition, in a greater or less degree, has been traced throughout several generations of a family. As a rule, however, all the lymphoid tissue of the throat has a tendency to atrophy after puberty. Strumous and tubercular diatheses have been credited with inducing overgrowth of this tissue.

Those living in damp climates are more liable to overgrowth of the lymphoid tissue. Exophthalmic goitre has been thought to be a cause of this disease, when found with it, but inasmuch as there is always more or less hyperplasia of the lymphoid tissue in goitre, this may account for it. Some authorities claim that deformity of the nasal septa and the high arched palate are due to enlarged adenoids, while equally as many claim the opposite.

Symptoms.—The most striking one is the obstruction to the nasal breathing, and the patient is compelled to breathe and speak through the mouth, and is termed a mouth-breather. The nose is more or less stuffed up, and often discharges muco-pus. The facial expression in cases of some time standing is stupid, and even the mental condition may be affected. The nares are pinched, the eyes expressionless, often deformity of the chest

and asthma may be found. Deafness and earache are common, so much so that we are almost accustomed to look immediately for the cause in the nose and throat. Associated with the deafness we have suppurative discharge from the ear. There is restlessness at night, suffering distress in breathing, with intermissions of sleep, amounting to night-terrors. These patients are sometimes afflicted with nocturnal enuresis.

Treatment.—The proper treatment in these cases consists in the thorough removal of the glands. The procedure heretofore in vogue with the faucial tonsils has been to clip them off with some form of tonsillotome, under the assumption that the remaining portion would atrophy. This it does not do, and instead is subject to chronic inflammation, and adhesions take place between the stump and the pillars of the fauces, binding the tonsillar substance down until it is pretty well hidden, and may lead us to believe it has atrophied. This condition is a harbinger of disease and a constant menace to the patient's health.

Where the tonsil is diseased and is not large, and does not project beyond the pillars, it is extremely difficult to include very much of the diseased tissue within the blades of the tonsillotome.

How many people will be found who have their tonsils operated on with only temporary benefit, and upon examination we find a stump firmly adhered and bound down to the pillars! For these reasons I consider the tonsillotome a very unsatisfactory instrument.

The cold wire snare is used quite considerably in doing this operation. Here it is necessary to first separate the gland from the pillars and from its attachments above and below with a knife or scissors curved on the flat; then, by pulling forward the tonsil with a vulsellum forceps, we are able to slip the wire well down to the base of the gland. Where the tonsils are long and flat, this method is not always applicable.

For the past nine or ten months I have been using the Robertson scissors. They are made in right and left, for the right and left tonsils, respectively. With this instrument, after separating the adhesions, we are able to dissect out the gland, leaving very little of the stump. In one case that I operated on I enucleated one of the tonsils. In removing the tonsils my method is to swab them with cocaine, 10 per cent in water, a couple of times, and once with adrenalin chloride, 1 in 1000; then, after an interval of from ten to twenty minutes, anesthesia is complete, and I remove, as described above.

In children, and where it is advisable to use general anesthesia, I also use adrenalin, and I have the head well lowered, in order that the blood will flow back into the pharynx and through the nares, instead of into the larynx and esophagus.

In operating on the pharyngeal tonsil the Gottstein curette or some modification is the popular instrument. It is necessary in children, and much better in adults, to operate under general anesthesia, as the procedure is very painful. Here also I have the head well lowered: first, that I can better engage the gland with the curette; and secondly, that the blood will not run down the patient's throat. I think we are liable in this operation to get in too much haste, and expect to clean out the vault with one or two strokes of the curette, and leave the operation incomplete. It is necessary to take plenty of time, and explore the field with the finger, especially around the openings of the Eustachian tubes and the posterior choana of the nares. Before completing the operation it is a good plan to pass a straight curette through the nares, as sometimes pieces of the gland adhere to the choana, and are out of reach of the Gottstein.

After-treatment.—An antiseptic gargle and nasal douche is all the after-treatment necessary. I think there is no part of the human anatomy that recovers so quickly from an operation as the nose and throat, from three to six days being about the average time required for healing.

Hemorrhage.—A word about hemorrhage: I have not been getting as much hemorrhage with the Robertson scissors as I did with the tonsillotome. I attribute this to two reasons: one is, I don't cut the pillars as I used; and the other is, I cut my tonsil further back than I used to, thereby getting behind the fibrous part, and my blood-vessels have an opportunity to contract. I have never been unfortunate enough to have a bad case of hemorrhage. I question whether the instruments on the market for this purpose are any better than digital pressure, or drawing the pillars of the faces together with vulsellum forceps, and leaving them applied for a time.

Where the hemorrhage cannot be controlled by the above methods, it is necessary to ligate the external carotid.

There are a few cases where severe hemorrhage has followed the removal of adenoids, but this is not usual, as the pharyngeal tonsil is poorly supplied with blood. The hemorrhage can be controlled by packing the pharynx and posterior nares with gauze or absorbent cotton.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE USES OF EGGS.

A French writer has recently commented on the lack of knowledge so frequently displayed by members of the medical profession in the use of eggs in conditions of ill health and for fulfilling certain definite wants of nutrition. A knowledge of cooking is certainly at times a very valuable addition to therapeutical resources, and it is not unusual for a physician to be able to formulate accurately the administration of acetylphenylhydrazine while unable to give to his patient simple dietetic instructions. The kitchen after all is as important as the pharmacy, all things considered.

Some misconceptions as to the nutritive value of the egg seem to have arisen from the acceptance of too low a standard of average weight. The average weight of an egg is now conceded to be 60 grammes. A medium-sized egg of 60 grammes contains 13 grammes of useful substances—a little more than 7 grammes of different forms of albumin and a little less than 6 grammes of different fats. The egg lacks hydrocarbons, and for that reason is not a perfect aliment. The white of the egg contains about 4 to 5 grammes of albumin; the yellow about 3 grammes of albumin and 6 grammes of fats, including lecithin or phosphorized fat. Containing as it does this quantity of fat and albumin it will be observed that an egg has the equivalent nutritive value of 150 grammes of cow's milk or of 50 grammes of meat—that is to say, 10 eggs equal about one pound of beef, which is interesting from the standpoint of economical equivalence. The whole egg furnishes about 80 calories, 18 calories due to the white and 62 due to the yellow. The intestinal digestion of eggs leaves little to be desired. Ninety seven per cent of

the albumins and ninety-five per cent of the fats are absorbed, and little residue is in consequence left.

The manner of cooking eggs is manifold. Eggs in the shell are probably the most digestible form if not boiled too hard, though from a dietetic standpoint there is little to choose between the various dishes of eggs, from boiled eggs to omelettes. The yellow of the egg is of course specially valuable where fat is indicated. Eggs can of course easily be made to adjust themselves to full alimentation, as sugar can be added easily to numerous dishes to supply the hydrocarbon. The yellow of the egg beaten in milk is to be commended if the stomach can digest well. One yellow beaten with 200 grammes of milk furnishes 185 calories. Among the unordinary methods of egg administration a simple and effective one is that of Munk and Ewald of eggs with beer. This is made by beating with an egg 25 grammes of powdered sugar until the mass is frothy and then adding 250 centimeters of fresh beer. Stir this with a teaspoon and drink immediately. This mixture contains 17 grammes of albumin, 6 grammes of fat, 40 grammes of carbohydrate, and has a value of 240 calories. In spite of its German origin our French friend tells us it appeals to the most Gallic of stomachs.

One of these veritable triumphs of the culinary art comes from Italy and is called a "Zabaglione." To make this, first mix in an earthenware vessel five yellows of eggs and 60 grammes of powdered sugar. Stir this mixture, and add little by little 150 centimeters of Muscatel wine. Then add a little cinnamon, lemon peel, and vanilla, and over a slow fire stir the mixture until nearly boiling. Then withdraw the vanilla, lemon peel, and cinnamon, and place the vessel in a casserole dish full of hot water and continue to stir. Add with care a dessertspoonful or two of rum and maraschino until the zabaglione is firm and thick. This is taken hot in large glasses with biscuits. A zabaglione made according to this method contains approximately 20 grammes of albumin, 30 grammes of fat, 10 grammes of carbohydrate, and 25 grammes of alcohol, and has a value of 800 calories. If made well it is a veritable "tour de main," and can be taken by delicate stomachs, but if not it is likely to be decidedly disagreeable.

ITEMS AND NOTES.

THERE are over two hundred mineral springs in the State of California.

THE Convocation of Oxford University proposes to confer on Dr. William Osler the degree of Doctor of Medicine.

A NUMBER of new cases of yellow fever have been reported from Panama, Colon, and intermediate points in the canal zone.

THE *Tourist and Homeseeker*, published at Jacksonville, Fla., announces that "no tainted medicine or whiskey ads. are admitted for publication."

VICTOR G. HEISER, of the United States Public Health and Marine Hospital Service, has been appointed commissioner of public health for the Philippines.

DR. JOHN B. MURPHY has resigned the chair of surgery in the Northwestern University, Chicago, and will accept the same position at Rush Medical College.

THE eighth annual meeting of the Association of Medical Librarians was held in Boston on Saturday, June 10, under the presidency of Dr. Jas. R. Chadwick, of Boston.

THE Hanbury gold medal of the Pharmaceutical Society, London, has this year been awarded to Prof. Ernst Schmidt, professor of pharmaceutic chemistry in the University of Marburg.

THE new $650,000 woman's hospital which has been erected in One Hundred and Tenth Street, New York, on a site opposite the Cathedral of St. John the Divine, will soon be ready to open its doors.

THE State University of Iowa has established a lectureship on tuberculosis in connection with the medical department of that institution, and has appointed Dr. J. W. Kime, of Fort Dodge, as lecturer.

DR. ERNST KUSTER, professor of surgery at the University of Marburg, will deliver the principal address at the unveiling of the memorial to von Esmarch at Tonning, his birthplace, which will take place on August 6.

Says an exchange: "The practical certainty that more than 1,000,000 immigrants will come into this country during the fiscal year ending with June, thus breaking all records, and the revelations made by agents of the Immigration Bureau in Europe concerning the methods employed by foreign governments to promote emigration of the criminal and unfit, have decided the President to urge Congress to make further restrictions. A heavy proportion of the newcomers are not desirable immigrants for political, economic, and moral reasons. One of the amendments that will probably be recommended is the raising of the head tax on immigrants to $25. This would bar thousands who are now admitted."

The work of the German Congress of Scientists and Medical Practitioners, which is to be held at Meran from September 24 to 30, is divided into main branches, one of which is devoted wholly to medical science. This branch is subdivided into fifteen sections, as follows: (1) Anatomy, histology, embryology, and physiology; (2) general pathology and morbid anatomy; (3) internal medicine, pharmacology, balneology, and hydrotherapy; (4) history of medicine and of the natural sciences; (5) surgery; (6) obstetrics and gynecology; (7) children's diseases; (8) neurology and psychiatry; (9) ophthalmology; (10) dermatology and syphilology; (11) dental surgery; (12) military hygiene; (13) forensic medicine; (14) hygiene, bacteriology, and tropical hygiene; (15) veterinary surgery.

The Japanese government, on the recommendation of the Mikado, has presented to Dr. Jokichi Takamine, formerly of the Tokio University, but now residing in New York, three handsome buildings, valued at $50,000, which were sent to America for the World's Fair at St. Louis. The gift, it is announced, is made in recognition not only of Dr. Takamine's services to the Imperial Japanese Commission at the Exposition, but also of important scientific and medical discoveries which have been applied during the present war with great benefit in the medical department of the Japanese army. We learn from the *Boston Medical and Surgical Journal* that Dr. Takamine will have the buildings set up at his summer home in Sullivan county, near Monticello, which he purposes to convert into a typical Japanese country-place. One of them, which is constructed of the choicest woods of Japan, was the scene of a luncheon served to the Emperor and Empress of Japan at the Osaka Exposition two years ago, and recently of receptions to President Roosevelt and to Prince Fushima when they were at St. Louis.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Some Results of Abdominal Operations.

Geo. E. Shoemaker (*American Medicine,* May 27, 1905) deals with 100 unselected consecutive cases from his service at the Presbyterian Hospital, with five deaths—one moribund when admitted and rapidly incised for pus drainage without diagnosis, one seen two weeks after onset with gangrene of several feet of small intestine, two bad chronic pus cases, and one chronic inflammation of tubes, ovaries, and appendix. In the 95 recoveries hysterectomy was done 20 times; 9 for malignancy. In malignant cases the method preferred was the separation of the growth through the vagina followed by removal of the uterus through a suprapubic incision. In the 12 cases of fibroid tumor the method preferred was hysterectomy by supravaginal amputation. Operation was done primarily for appendicitis 11 times, but in the course of other abdominal operations the appendix, not being normal, was removed in 22 other cases, so that altogether in one-third of the cases of the series the appendix was removed. The method preferred was by ligation and purse-string burial of the stump. The removal of the appendix probably increases the risk of the primary operation to a very slight degree and is not advised under unfavorable conditions, as in a complicated hysterectomy. Of the six extra-uterine pregnancies all recovered. A large number of other operations were done in a corresponding period, such as plastic perineal work, suspension of the kidney, curetting, etc., some of these operations being done in combination with abdominal section and all without mortality. In 68 per cent of the cases requiring perineal repair the anterior vaginal wall was also treated by the excision method.

Changes of View in Appendicitis Work.

R. T. Morris (*Medical Record,* May 27, 1905) says that although formerly he used to forbid morphine altogether his views on the subject have changed, and he now gives it cautiously in cases in which there is great restlessness. The drug is still regarded as a double-edged sword, however. Both gauze pack-

ing and iodoform gauze have been abandoned altogether as well as the use of buried sutures of silkworm gut. A standard length of one and one-half inches for the incision has been adopted for nearly all instances, including cases of abscess and peritonitis, and it has been found safer to deal with adhesions by touch than by sight. The time limit has also been greatly reduced, and now it is common to have the time from the first incision to the last suture occupy not more than seven to eight minutes. All patients are operated, even if moribund, a preliminary infusion of salt solution being given; adhesions are freely separated if necessary, but not otherwise, and the idea of flushing out the abdomen has been dropped. After eliminating the features which seemed to have a special death-rate of their own, viz., gauze packing, iodoform gauze, long incisions and the expenditure of time in unnecessary detail of work, one hundred consecutive operations were published with a two per cent death-rate. The author does not favor the removal of the normal appendix in the course of other operative work, and he now uses a cigarette drain in all cases in which pus or septic débris has been left in the peritoneal cavity. The dictum of operating as soon as the diagnosis is made holds good, with certain exceptions, but it is still a question what to do with patients who are convalescing from the attack. In interval cases it now seems best to operate only when on palpation the appendix is found to be the definite seat of chronic infection or of adhesions which cause symptoms.

Pyloric Stenosis in Infancy.

Chas. M. Scudder (*Journal of the American Medical Association,* May 20, 1905) reviews the literature of pyloric stenosis of infancy and describes the symptoms, diagnosis, and treatment. He recognizes two groups—the subacute, or chronic, and the acute fulminating cases. While most cases are fairly typical, in some the differential diagnosis is difficult, and a careful study of each symptom and the sequence and grouping of symptoms should be made till the diagnosis is reached by a process of exclusion. He has little faith in the medical treatment, and believes that the condition is practically hopeless without operation. The results of operation since 1898 show a saving of over 50% of the cases, of which probably all would have died if let alone. An analysis of the fatal cases shows that many of them were due to mistakes or errors of technic, too late operations, etc. The operation should be rapid, free from causes of shock,

sepsis or hemorrhage, the parts to be handled gently and isolated outside of the abdominal cavity. The Loreta operation is condemned. Pylorectomy is too severe, and pyloroplasty is not recommended save in exceptional cases. Some form of gastro-enterostomy is best for most cases, but owing to the shortness of the infant mesentery and other reasons the anterior operation should be avoided if possible. The Finney operation of gastro pyloro-duodenostomy may be suitable in some cases, or if not feasible, Kocher's gastroduodenostomy may be useful. After care is of vital importance, and if possible an expert in feeding a baby should have charge. Absolute quiet is essential and rectal feeding may be needed for a few days. Scudder does not discuss the etiology to any extent, but thinks that a congenital hyperplasia may occur, and a spasmodic contraction of this after birth is frequent if not the rule.

Pancreatic Cysts.

M. T. Karpeles (*American Medicine*, May 13, 1905) details the literature of pancreatic cyst. He believes treatment should be exclusively surgical, and one of two methods should be employed—incision followed by drainage, or extirpation. The choice of the site of the incision depends entirely upon the situation of the tumor. He reports the case of a man of sixty-eight who complained of pain in the left side. The principal symptoms were marked nausea, with occasional vomiting of dark-green, thin, watery fluid in large quantities, and in amount out of proportion to that ingested; general pruritus, especially of the hands; dyspnea on least exertion; profound weakness; epistaxis; colicky pains; frequent attacks of diarrhea; and insomnia. Upon examination the skin was found slightly yellow, and the digestive symptoms were most prominent. The stools were clay-colored and free from fat. A tender area was elicited at the costal margin in the mammary line; in the course of ten days it was possible to outline in this area a "mass" the size of an egg. This gradually enlarged until it included the left half of the epigastrium, the left hypochondrium, the umbilical and left lumbar region. Operation was deemed inadvisable in view of the jaundice, epistaxis, and marked exhaustion. The patient died within a period of four and one-half weeks. Only a partial autopsy was permitted. The cyst contained two liters of a greenish-colored fluid with little consistency and no blood.

Tin Splints.

A. T. Mann (*Journal of the American Medical Association,* May 13, 1905) calls attention to the advantages of sheet tin for the construction of surgical splints. It is thin and light, has considerable firmness, and is easily manipulated. Only a few simple tools are required—a small vise, tin-shears, a hammer, a five-cent punch, and a few rivets are all that is needed. It is also cheap; he used about thirty cents' worth of tin in making all the many splints which are illustrated in his paper. It has the advantage also that with it one can mold the splint to any individual case. The major part of his article is devoted to the description of the construction of splints suited for various fractures of the fingers, arms, legs, etc. He also describes two original devices for gaining full flexion and extension of the elbow after a T fracture into the joint.

MEDICINE.

The Alleged Destruction of Red Blood-corpuscles in the Spleen.

E. T. Williams (*American Medicine,* May 13, 1905) gives a complete translation of Kolliker's utterances on this subject, taken from his work on "Microscopical Anatomy." Kolliker thinks that red blood-corpuscles are not a natural element of the spleen, but result from hemorrhagic effusion. They then pass into dissolution. This occurs through the formation of large blood-corpuscle-holding cells, by the spontaneous development of an investing membrane round a clump of corpuscles and of a nucleus in the interior. The corpuscles immediately break up into pigment granules and soon disappear altogether. This is seen in almost all animals. The arguments pro and con are stated at length, and the author confesses that he was often tempted to abandon the theory and go over to the opposite view of Hewson, but always came back to his original opinion.

In commenting on this theory, Williams declares that the idea of a perpetual splenic apoplexy affecting all animals throughout life without the slightest effect on their health is inconceivable. Moreover, the alleged effusion never clots, never distends the organ, never displaces the tissue fibers, and never excites inflammation. Kolliker fails to state his method of examination. He used no fixatives, and tacitly admits that he examined some specimens in water. He used pathologic and probably partly

decomposed spleens. Scherer, as quoted by Kolliker, found putrefactive products in spleens, which could not have occurred had he used fresh specimens. Williams found dissolving blood-corpuscles in specimens treated with water, salt solution, artificial serum, and to some extent in preparations fixed by heat and stained with watery solutions of the aniline dyes. Since he had used only fresh spleens fixed with sublimate salt and stained with hematoxylin-casein he found none at all; hence he was forced to conclude that Kolliker's theory was a chimera. Kolliker was a great anatomist, but not a great thinker. He is believed to have been mistaken in the present case.

Tubercular Meningitis.

W. F. Cheney (*Journal of the American Medical Association*, May 20, 1905) reports and comments on three cases of tubercular meningitis with special reference to the diagnosis. He mentions the indefiniteness of the early symptoms, and says that we should always be suspicious of tubercular meningitis in a child in illness with associated digestive disturbances, slight fever, and irritability of temper. Stupor is more significant, but it may also be due to intestinal toxemia or some acute infection; in such case there is usually a high fever. Evidences of intracranial pressure, such as pupilary abnormalities, local paralysis, irregularities, etc., are still more definite indications, but these, like the mental condition, may vary from day to day, thus giving rise to false hopes of recovery. Rigidity of the neck muscles is a very valuable sign, only likely to be simulated by disease of the cervical vertebræ or rheumatic torticollis, and in these other symptoms of meningitis are apt to be wanting. The Kernig sign, so valuable in the adult, is, according to Cheney's experience, difficult to elicit in children, owing to their fear of manipulation. The white blood count is of value, a moderate leucocytosis pointing to tubercular meningitis. One of his reported cases is of interest on account of its occurrence in an adult, its clinical resemblance to cerebrospinal meningitis, and from its being the only one of the three in which an autopsy was obtained. We are apt to associate tubercular meningitis with infancy, but it can be excluded at no period of life. In this case the low leucocytosis and lumbar puncture findings confirmed the diagnosis of tubercular meningitis during life, and the autopsy revealed a preëxisting lung focus. Tubercular meningitis is always secondary to the disease

somewhere else in the organism. The article concludes with remarks on the differential diagnosis from other conditions, and especially from the other forms of meningitis.

Lead Poisoning.

Joseph Sailer and John M. Speise (*Journal of the American Medical Association,* May 13, 1905) examined the gastric contents after test meals in twelve cases of lead poisoning, and report the findings. The stomach contents were tested for lactic acid, free HCl, and amount of pepsin present. In all cases a microscopic examination was made for the Oppler-Boas bacillus. Their conclusions are as follows: (1) In a series of twelve cases of lead poisoning, or of suspected lead poisoning, deficiency in the secretion of HCl was noted in ten of the chronic cases, and was not observed in two, one of which was doubtful and the other acute. (2) This deficiency in the secretion of free HCl, in the majority of cases, is associated with an extreme reduction in the percentage of peptic digestion and with the presence of lactic acid. (3) It is not justifiable at present to regard it as an indication for treatment, at least not until the effects of the ordinary treatment for achylia gastrica in cases of lead poisoning have been tested. The authors have found no similar studies in the literature, which they consider rather remarkable in view of the pronounced gastric disturbances produced by lead poisoning.

Brain Hemorrhage.

W. A. Dickey (*Journal of the American Medical Association,* May 13, 1905) considers alcohol and syphilis the two most prominent causes of arterial degeneration favoring brain hemorrhage; next to these comes chronic interstitial nephritis, and after this a multiplicity of other factors leading to arterial decay. Still another factor is required in all cases, namely, increased intracranial blood-pressure, such as may be caused by muscular effort, indigestion, etc. Besides the prophylactic measures, such as quiet, avoidance of whatever may cause cerebral congestion, increased work of the heart, etc., he advises for the attack itself the use of powerful cardiac depressants, naming, in the order of their importance, aconite in full doses, veratrum viride, gelsemium, and venesection. Gelatin is, he thinks, too slow in its action and not always practicable. Cathartics should be avoided

for the first few days, and he sees little utility in an ice-cap to the head. The patient should be kept absolutely quiet in bed for ten days or two weeks.

Adenoids in the Adult.

Donald M. Barston (*New York Medical Journal*, May 6, 1905) says that adenoid growths in the adult are much more common than is generally supposed.

The condition is a frequent cause of nasopharyngeal catarrh, with dropping back of mucus and frequent clearing of the throat. It is also a frequent cause of nasal obstruction, and is the causative lesion in some cases of apparent hypertrophic rhinitis. The cases reported show that a thorough examination of the nasopharynx should be made in all cases of ear disease and pulmonary tuberculosis.

The treatment is not difficult, and the results are occasionally brilliant and rarely unsatisfactory.

A Case of Long-standing Major Hysteria Characterized by a Paroxysmal and Fixed Pain, Mental Depression, Delirium, and Hallucinations—Recovery.

T. Dillon (*Medical Record*, May 13, 1905) reports the case of a married woman of thirty-five who for over two and a half years presented the picture of serious illness, of which uterine hemorrhage, severe autointoxication, mental depression, delirium, elevation of temperature, dyspnea, and great local tenderness and pain in the left lower abdominal and inguinal regions were different phases. No organic basis for the clinical condition could be detected, and one day during a consultation it was suggested that an exploratory incision be made through the tender abdominal muscle. From that day the patient began to improve, and three weeks later was discharged, apparently in the best of physical and mental health.

Tests for Functional Power of the Kidney.

Kapsammer (*Münchener med. Wochenschrift*, lii, No. 17) draws attention to the unreliability of the freezing-point test and tests based on the intravesical segregation of the urine. He considers the indigo-carmine test and the test with a warm solution of phloridzin to be of most value. With the phloridzin test the

inference is based on the length of time before sugar appears in the urine. If sugar is found in from twelve to fifteen minutes after injection of .01 gramme of phloridzin the kidney is in a healthy condition; if it does not appear until half an hour the kidney may be functionally imperfect but capable of recovery. If glycosuria is delayed over half an hour the power of the kidney is permanently impaired.

Immunization Against Typhoid.

Bassenge and Mayer (*Deutsche med. Wochenschrift,* xxxi, No. 18) discovered some time ago that a vaccine could be obtained from typhoid bacilli by shaking them up with distilled water. The mixture is filtered, and the bacteria-free filtrate contains a powerful vaccine. If 2.0 cubic centimeters of this solution containing the vaccine substance of an entire culture be injected subcutaneously, it will produce such an amount of antibodies that the blood evidences marked bactericidal power even after six months. The vaccine is a yellowish fluid, durable, and producing but slight systemic disturbances.

Value of Tremor in the Diagnosis of Alcoholism.

Furbringer (*Berliner klin. Wochenschrift,* xxi) found in 500 cases that 194 abstainers and 18 drinkers showed no tremor, 153 abstainers and 56 drinkers showed a slight tremor, and 28 abstainers and 51 drinkers showed intense tremor. He concludes from these findings that actual drinkers do not always show this symptom, and that little value can be placed on it as a diagnostic symptom of alcoholism.

A New Method of Stomach Analysis.

Sahli (*Sweitze Korrespondentz Blatt,* 9) introduces a new method of stomach analysis which dispenses with the disagreeable stomach-tube and test breakfast. He administers to the patient a capsule of rubber containing .05 of methylene blue and .1 of iodoform; this capsule is closed at the ends by tying with catgut. In the stomach the catgut is dissolved by the stomach juices and its contents set free; the subsequent finding of methylene blue and iodoform in the urine will indicate the rapidity with which the catgut is digested and the sac contents absorbed.

THERAPEUTICS.

Treatment of Cerebrospinal Meningitis.

Franca (*Deutsche med. Wochenschrift*) says that during the epidemic of cerebrospinal meningitis in Lisbon in 1902 the mortality of 47 cases in which the patients were treated by lumbar puncture alone was 63 per cent. In 9 patients treated by lumbar puncture and injections of cyanate of mercury it was 66 per cent. In 58 patients treated by lumbar puncture and injections of one-per-cent lysol solution it was 29.3 per cent. The writer drew off 25 to 50 cubic centimeters of cerebrospinal fluid and injected 3 to 9 cubic centimeters in children and 12 to 18 cubic centimeters in adults of a one-per-cent lysol solution. The injections were repeated every day until the fluid was sterile, which was in a few days. Patients treated in this manner were noticeable by reason of a lack of emaciation and trophic disturbances.

Modern Treatment of Tuberculosis.

C. O. Probst (*Journal of the American Medical Association*, May 20, 1905) describes the modern pure air, rest, and dirt treatment of consumption, and insists especially on the individualizing of the treatment. Otherwise the patients may come to think the physician of very little use. He has a poor opinion of ordinary tents as affording insufficient ventilation and holds that exercise should be especially controlled by the physician. In conclusion he emphasizes three points: First, the supreme importance of early diagnosis; second, the strict enforcement of a daily regime, reduced to writing and carefully planned for each individual case; third, the necessity of a comprehensive understanding of the character of the patient, a knowledge of the nature and extent of his lung lesion, and a full appreciation of the importance of even the minute details of his environment.

Infant Feeding.

F. S. Churchill (*Journal of the American Medical Association*, May 27, 1905) discusses the embarrassments of infant feeding when the breast milk is not available and the unsatisfactory

results of the common practice of diluting cow's milk with water in such cases. He summarizes practically as follows: Cases of difficult feeding in infancy are: (1) Those of fat indigestion; (2) those of sugar indigestion; (3) those of proteid indigestion. Each of these may occur alone or in combination with the others. Proteid indigestion is most common, but fat indigestion is also frequent. Each must be treated individually, the form of indigestion present must be ascertained if possible, and appropriate measures adopted. The treatment is almost exclusively dietary; the fats and sugars can be regulated by varying the amounts of cream and sugar in the food. The composition of cow's milk with its high caseinogen and low lactalbumen content must be remembered in treating proteid cases, the caseinogen must be cut down or eliminated, if need be, and the lactalbumen retained. This twofold object is attained by feeding whey. Increase in quantity and quality of the food must be made gradually. In conclusion, he suggests the desirability of careful study of artificially fed infants and publication of the results.

Experience of Nine Years in the Treatment of Diphtheria with Antitoxin.

John H. McCollum (*Boston Medical and Surgical Journal,* June 1, 1905) says that antitoxin is a remedial agent of immense value in the treatment of diphtheria, and should be classed among the great medical discoveries of the nineteenth century. In order to obtain the best results, it is important that the serum should be given at the earliest possible moment in the course of the disease. In attacks of diphtheria of a severe type antitoxin should be given in very large doses. In laryngeal diphtheria, in the majority of instances, intubation is the operation of election.

Treatment of Furuncles and Carbuncles.

Markus (*Münch. med. Wochenschrift,* No. 21) has successfully treated furuncles and carbuncles by introducing an epilating needle into the inflamed follicle and then allowing a ten-milliampere current to flow, alternating the poles during the treatment. He found even in cases where suppuration had already begun that electrolysis was of benefit.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology,
Detroit College of Medicine.

Artificial Dilatation of the Cervix in Obstetrics.

R. C. Norris (*American Medicine,* May 20, 1905) says the value of any method of artificial dilatation should be measured by its power to evoke uterine contraction and thus promote effacement of the internal os. He concludes: (1) The necessity for the induction of a premature labor by a method requiring less than 12 hours is extremely rare. (2) The method most frequently employed and most satisfactory in the author's experience has been a combination of partial mechanical dilatation, followed immediately by the insertion of a bougie and an extraordinarily large Voorhees' bag incompletely filled. (3) For the relatively rare cases in pregnancy or labor requiring accouchement forcé the choice of rapid mechanical dilatation depends especially upon the character of the cervix, the general state of the patient, and the firm determination not to attempt too rapid dilatation. Bossi's or De Seigneux's instrument is cleaner, less tiresome, applicable to the same class of cases, and is not more dangerous than manual forcible dilatation. (4) Duhrssen's vaginal section is a most valuable operation in the hands of an expert obstetric surgeon, and should be preferred to rapid metallic dilatation except when conditions favorable to the latter are unmistakably present. (5) For the treatment of the Graves forms of placenta previa and of accidental hemorrhage, Duhrssen's hysterotomy, in the hands of an expert vaginal operator, should prove the best method of treatment ever offered.

Inflammatory Disease of the Uterine Adnexa and its Treatment.

H. Grad (*Medical Record,* June 3, 1905) first considers the anatomy of the adnexa, the etiology of inflammatory processes in this region, and their pathology and relation to pelvic abscess and peritonitis. The symptomatology and course of acute and chronic salpingitis are then elaborated and the question of diagnosis is taken up. In this connection the subject of ectopic pregnancy is discussed, a condition which not only frequently enters into the diagnostic possibilities but also may be a sequel of a

previous tubal inflammation. Considerable space is given to the subject of treatment, and the exposition of the palliative methods is very full. The author believes that this is very important, as the natural termination of these lesions is in resolution and cure, and he says that procrastination in operative measures and judicious persistence in general treatment is to be strongly urged. The use of opiates requires especial care in order not to mask the symptoms and yet not to permit the patient to suffer needlessly. Local treatment may or may not be necessary, and antiseptic applications and irrigations with liberation of pus and absolute cleanliness are the keynote in the treatment of the various lesions of the urethra, vulva, vagina, and cervix. The operative treatment in acute and chronic cases is then described, the author calling attention to the danger attending radical operation during the acute exacerbations, which he terms a questionable procedure. Vaginal drainage will usually bring about a cessation of symptoms with improvement in the patient's condition. The technique of pelvic operations is treated at length, special stress being laid on the matter of conservative measures and their advisability when possible. Vaginal section by a T-shaped incision is commended for use in suitable cases.

Suppurating Kidney in Pregnancy.

D. Fournier (*British Medical Journal*, May 27, 1905) reports two cases of pyelonephritis complicating pregnancy, instructive owing to the difference in their clinical histories. The patient in the first case had undergone hysteropexy for backward displacement of the uterus, causing dysuria; the operation had proved successful. But the right ureter was compressed and infected, as was the right kidney itself. Fever set in and pus appeared in the urine. At the seventh month the patient was delivered of a dead fetus, then she was lost sight of; she declined to allow the kidney to be drained. The second patient had during pregnancy a very acute attack of pyelonephritis. The fever ran high, and streptococci were found in abundance. The kidney was drained; it was found to be big, deeply congested, and friable. Within a few hours after the kidney was incised, marked amelioration was noted. Pregnancy continued almost to term, when the patient was delivered of a healthy child weighing about 5 pounds 13 ounces. Fournier insists upon drainage of a suppurating kidney in a pregnant subject as the right line of treatment, far preferable to the induction of labor.

THE MEDICAL AGE

Vol. XXIII. DETROIT, AUGUST 10, 1905. No. 15.

ORIGINAL CONTRIBUTIONS.

SUGGESTIVE THERAPEUTICS.

BY B. A. BOBB, M.D., MITCHELL, S. DAK.

This subject has not been given sufficient thought and consideration by a great many of our profession, and I shall feel amply repaid if I can with the few thoughts I present arouse interest and perhaps lead the profession to investigate and use this in regular medical practice.

In the first place, we believe that man is possessed of a dual mind. This is variously termed the subjective or involuntary mind and the objective or voluntary mind. The subjective mind is the mind given him by his Creator, at the time of conception, and is termed by some the mind of the soul. The objective mind is that which begins at birth and might be termed the mind of the brain.

This possession of the dual mind is so thoroughly believed and has been so clearly demonstrated by the leading psychologists that it will be unnecessary for me to offer any proofs of the statement, but take this as the groundwork or main foundation upon which to place my remarks.

I wish to be pardoned for offering a few words in explanation of the workings of the two minds, simple though they be.

It will be remembered that it is this subjective mind that keeps the heart beating, that keeps us breathing without any voluntary effort on our part; it is the seat of the emotions and the guardian of memory, and our whole educational experience is stored there. It never sleeps, never tires, and never dies. It is this subjective mind that presides over the functions of the various organs of the body, as the liver, stomach, bowels, kidneys, etc. However, this subjective mind, apparently, has no reasoning power.

It is this subjective mind that we seek to impress with this

method of treatment. I believe that all modern investigations and researches go to prove that the subjective mind controls the functions, sensations, and conditions of the body, and also that this subjective mind is under control or is amenable to control by the power of suggestion. An impression having reached the subjective mind is never lost, and may be recalled under favorable conditions.

It is the objective mind that has the reasoning power.

Now, man's objective mind is at rest during sleep, but is aroused the instant he becomes conscious of the reception of impressions through the senses, and in the waking condition man is in a position to reason properly upon conscious impressions, and put together facts to enable him to arrive at reasonable conclusions. With this objective mind active, he is able to cope with the necessities of the battles of life, and in a great measure to control the subjective mind. However, we find a great many people who accept almost everything without reasoning upon it. When this occurs the subjective mind is directly impressed and accepts the statements as true, whether they be true or false. Such a one is known to be highly suggestible, or, as some term them, somnambules, and seems at all times to be influenced by his environment, and very probably had stern parents as his guardian.

Now, in suggestive therapeutic work it is the subjective mind that we seek to impress, since it controls the bodily functions. This being the case, we endeavor to find the best method to induce the suggestive condition in our patients. It is easy enough to reach the suggestive mind in those who are highly suggestible, but the success of the whole work depends upon the ability to reach the suggestive mind of those who are apt to reason on every suggestion received, and to influence them to accept suggestions for their benefit.

In the first place, it is never necessary to give a patient a suggestion that is not true. A patient who is highly suggestible will accept a suggestion anyway, and if a reasoning patient questions a given suggestion a logical line of argument will usually set his objective mind at rest at once, and his subjective mind is then in a condition to be influenced.

Now the suggestive condition is one in which a suggestion has an exaggerated effect, a condition in which we have the patient's whole attention. We are said to be *en rapport* with our patient. The most rapid means of inducing this condition is to remove all autosuggestions, and then to get the patient's whole

mind centered on the suggestions to be given. If the patient, however, refuses to believe the suggestions that we desire to give, the treatment will eventually have its effect about the same, after repeated suggestions are given daily for a time, for suggestion is a motive force of great potency. Repeated suggestions, if true, will in time overcome almost every case of the most obstinate autosuggestion.

One of the objects of suggestive treatment is to change the thoughts of the subject and have him think as we wish him to think.

We believe that thought takes form in action. The brain is the dominant organ of the body. The chief and greatest function of the brain is to receive, associate, and store away all impressions received through the senses, and to reproduce these impressions when necessary. The brain, in fact, is the guardian and at the same time the servant of the mind. Now we believe that through the mind the function of every organ of the body may be assisted or retarded, and that it is through unconscious action of the mind upon the body that so many diseases are produced and so many are also cured. The knowledge of suggestion enables the physician to discern the influence a patient's mind has upon his health, and in every case to secure his intelligent coöperation. The force which heals a man is within himself, and, when understood, may be controlled by himself.

A knowledge of suggestion enables physician and patient to stimulate and direct this vital force intelligently to the cure of all functional diseases, and many organic diseases. Of course, we all know where structural changes have taken place in an organ no known force or remedy will restore that particular organ or part to its original and normal condition.

One of the most satisfactory things in connection with this subject is that these things are absolutely demonstrated every day. The law of nature is never-failing. If it will work to-day it will work every day under the same conditions.

One of the principal reasons that the medical profession at large have not availed themselves of this power more generally is that it has been mixed up so much and surrounded by such mysteries as mesmerism, hypnotism, Dowieism, Christian science, mental healing, spiritualism, etc., that as a profession we have stood aloof and laughed and ridiculed and failed to investigate. As Dr. Johnson, of Los Angeles, has said: "Some, unable to explain it, have denied it absolutely, refusing to bow before evidence of facts. Others look upon it as supernatural authority

from God or the devil. Some are wanting in scientific spirit, others err because modesty and humility are lacking. To deny what we cannot understand, to invoke the aid of God or the devil to explain what our poor human minds cannot conceive, is an evidence of a certain mental self-sufficiency which is not characteristic of strong minds. All the psychic orders are mysteries, the mechanism of which escapes us, and which nevertheless are carried out. Let us be content to be humble, feeling our insufficiency, and let us resign ourselves modestly, not to overstep the limits of our intelligence."

Perhaps the worst nuisance that we have to contend with at the present time in the way of establishing suggestive therapeutics is the fact that the term hypnotism is so frequently used synonymously with it, which is very misleading, as the word hypnotism carries with it very misleading ideas, especially with the public mind. Many, perhaps the majority, and some physicians too, believe that the so-called hypnotist can bring certain individuals under his control and cause them to do things which they would not for the world have done had they not been thus hypnotized, such as the committing of crime, etc. This is all wrong and an erroneous idea. It has been many times demonstrated that a person cannot be hypnotized to do a thing to which he is morally opposed. However, I believe that, given a person criminally inclined, and placed in the hypnotic state, he would follow out suggestions of a criminal nature, and this is the principal reason that this subject should be placed in the hands of the regular profession instead of in the hands of so many charlatans, as it now is.

It is now generally conceded, and I have proven it to my own satisfaction, that to obtain the best results in the healing process it is not necessary to put the patient in the somnambulistic or hypnotic state, and in my own practice I seldom do any more, except it be a case where the patient has been previously placed in the hypnotic state and is a somnambule, and acquiesces so easily to suggestions that the first thing I know he will have to have a suggestion to arouse him from a lethargic state.

The reason for this is, as Bernheim has well said: "Sleep, whether it be artificial or spontaneous, does not mean the abolition of the mental faculties. It is a cerebral condition, other than the waking one, which it is difficult to define—a condition in which the phenomena of automatic life predominate, but in which the so-called reasoning faculties may be roused and concentrated upon a special point or class of ideas."

When I first commenced the study of suggestive therapeutics, about six years ago, I believed that to be successful it was necessary to place the subject in the hypnotic state, and I was more or less successful at that time, because it was the somnambulistics that came first for treatment and were easily placed in this state. However, I found that with patients with organic troubles the effects were not so lasting; that the impressions were easily implanted in the brain, but that they often, as it were, would not take root and grow, and dispel the autosuggestion of which the patient was previously possessed. I found that I could get better and more lasting results by not placing my patient in the deep hypnotic state.

I believe with Dr. Johnson, of California, that to one who has experience, and closely observed results, there can be no reasonable doubts in his mind that Jesus of Nazareth was announcing a natural law when he said: "If any two agree as touching anything which they desire, and believe that they receive it, they shall have it." He taught his disciples that Heaven and the earth might pass away, but His words never, for the simple reason that he was stating scientific facts and laws which never change.

Now the necessary suggestions may be given by different ways and methods, but I have found a combination of them all to be more effective usually, as suggesting orally, expressions of countenance, and by touch.

I believe the time will come when this potent agent will be taught systematically in all of our medical colleges.

This agent is not only a good thing in the treatment of many diseases, but it is also a splendid treatment for many of the perverted habits, as smoking, sexual perversions, suicidal mania, disobedience and untruthfulness in children, bed-wetting, and many other habits.

In regard to the diseases that are amenable to treatment by this method, I might say, generally speaking, all functional diseases are perfectly controllable. There is no disease that I would say it is impossible to cure, and still sometimes we might fail to cure the simplest malady.

It has been a great source of pleasure to have a patient come to me after receiving medical treatment for obstinate insomnia without any relief, and after one or two suggestive treatments return and say that they never slept so well in their lives as they have since I treated them. I believe that there is nothing like it to produce quiet sleep and break up the wakeful habits

of nervous people. Chronic constipation will yield to this treatment more quickly and with better results than to any treatment of which I know. I have had long-standing cases of menstrual difficulties, such as dysmenorrhea, irregularity, etc., yield within a short time to this treatment. There is such a long list of diseases that can be successfully treated with this method that it is useless for me to mention them all. I am aware that to those who have not studied and had experience with this method of treatment these statements will seem about like so much nonsense, and in a measure I do not blame them; still show me the physician who does not offer helpful suggestions with every prescription that he gives his patient for some internal malady, and especially if that patient be a nervous one, and I will show a physician who is not nearly so successful as he might be. What is the reason when we give our patient a prescription for some simple malady that we tell him that this medicine will cure him, that it will act so and so, and so and so? Is it habit on our part, or is it because we wish to prepare him for the lawful effects of this remedy, though simple it may be? Now I will tell why, although all know it, but often don't stop to think. It is the expectation of effect and cure that we arouse in the patient's mind. Every dose of that medicine that he takes, he thinks of what was told him that it would do. Now, then, thought takes form in action, and the thoughts of the effect that that medicine will produce go as far toward that effect as the remedy itself.

I am now satisfied with the results of treatment given, and have seen so many cases cured that when a patient comes to me for the alleviation of many of their ills, I rest with a sense of certainty that I am to be successful in their case. I would simply say, investigate, study, and use this method. We may not be successful with every case, and I am certain that we are not with the use of medicine alone. Do not think that I am in the least opposed to the use of medicine. I am not. I use medicine every day that I practice, and believe in it just as much as I ever did, but we all know there are classes of patients that medicines do not reach, which I am sure can be cured in the manner I have mentioned, and it certainly becomes us as wide-awake, scientific physicians to use every means for the alleviation of afflicted humanity. One thing is certain, and that is this: If we as physicians do not arouse ourselves to the necessity of this method of treatment, and take it out of the hands of charlatans and the ignorant, they will certainly treat many of our

cases. I believe that there should be a concerted action on the part of the profession to take this out of the hands of unreliable people.

I will not enter upon further detail as to the technique of this treatment, but would again ask the profession to investigate it, by reading such works as that of Moll, Bernheim, Parkyn, Halfhide, and others. I might answer one question in advance which will probably come to mind, and that is: Can any physician use this method of treatment? I will answer this in the words of Dr. Johnson. Psychiatric power is born, not made; that is, psychiatrists cannot be made to order in one-half day. However, we know that there is not any particular power in ourselves, but that the condition that we wish to produce lies within the patient, and it is simply our ability to produce *"rapport,"* a peculiar state of sympathy. Our sympathy must be genuine and thoroughly disinterested. We must be persons of the deepest feelings, and, above all, must ardently desire to elevate and purify the souls in their keeping.

I will give a few illustrative cases in my practice:

Case 1.—A young lady had been a great sufferer for a number of years with severe dysmenorrhea, and the most obstinate constipation. She had received medical treatment at different periods for over six years, with but little relief. One suggestive treatment cured the constipation entirely, the bowels moving regularly every morning ever since, and a treatment every other day for a month cured the dysmenorrhea.

Case 2.—Lady; married; neurasthenic; pronounced insomnia, only sleeping a couple of hours during the night; sense of fear, and wholly unable to concentrate the mind on any reading matter. One-half dozen treatments completely cured the insomnia and neurasthenia, and she can now sit down and read a book without any effort.

Case 3.—An eight-year-old boy; tonsillitis. I had previously treated him for the same trouble, and he always furiously rebelled when an examination was made of the throat, having to use force to open the mouth. I found the boy in bed with a high fever and all the characteristic symptoms of tonsillitis. He was in a drowsy condition. I made several suggestions to him of sleep, and then suggested that he would sleep nicely for ten minutes, when he would awaken, get up, and sit on his mother's lap and open his mouth and let me examine his throat. I asked the father to take the time; and at precisely the time suggested he awoke, got out of bed, climbed on his mother's knee, and

when I approached he opened his mouth, and I examined his throat without the least bit of trouble.

I might take much more time enumerating cases that have come under my care, and in which I have selected this method of treatment, but this is not the object of the paper. It is also being used a great deal at this time in obstetric cases and to produce anesthesia, and I believe it was Dr. Morris, of New York, who operated upon appendicitis with no other anesthetic than that of suggestion.

Therefore, in the face of such facts as these, should we sit still and allow others, without any scientific knowledge, to enter the field, use the power, and get the results?

MALIGNANT POLYADENITIS (THE PLAGUE)—A HISTORICAL SKETCH.

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The so-called malignant adenitis (Cautlie)—otherwise designated as the plague; inguinal, bubonic, glandular, Oriental, Indian, Pali, and Levantine plague; Oriental typhus; septic pestilence; black plague; pestilential fever; pestis; black death; pestis bubonica, etc.—appears to have been derived partly from the Greek word πληγή (L. plaga), a stroke or blow, and partly from the Greek λοιμὸς (L. pestis), a pestilence. The name suggested by Cautlie (malignant polyadenitis) seems more expressive and appropriate than any of the others indicated.

There are but immaterial differences between ancient and modern medical lexicographers as to what is meant by the word "plague:" (1800) The plague is a very malignant fever of a putrid and contagious nature, in the progress of which extreme debility, buboes, carbuncles, petechiæ, hemorrhages, colliquative diarrhea, and such other symptoms arise. The contagion of the plague is of a specific nature, giving rise to febrile symptoms, and particularly affecting the nervous and glandular system. (1890) The plague is a highly fatal contagious epidemic which occurred in Europe in the fourteenth century, and also at later periods. The disease had many of the characteristic symptoms of malignant typhus fever, accompanied by buboes, melanosis of the skin, carbuncles, and similar affections. (1900) The plague is a contagious, malignant disease allied to typhus fever, but differing from it in some essential features; the symptoms resemble those of typhus fever, together with the formation of buboes, carbuncles, petechiæ, etc.

It would seem that one of the authorities mentioned (1899) was under the impression that the visitation of the plague in the fourteenth century was the first epidemic recorded, whereas medical history indicates that it was recognized and accurately described about 460 B. C., and pestilences supposed to have been epidemics of the plague are referred to in the writings of Neanetho (Egyptian historian, third century B. C.) as having occurred during the reign of the most ancient Egyptian kings.

As the superscription indicates, it is not the intention that this contribution shall present anything new—indeed, the writer has never encountered a case of malignant polyadenitis; he is familiar with reports of the cases which are said to have occurred in New York and San Francisco (1899-1900), but has had no opportunity to observe the disorder at close range, nor indeed is he especially desirous of so doing. The possibility undoubtedly exists that under certain conditions this country might be partially depopulated by an epidemic of the plague, as have other countries in times past; thus the importance of the subject should not be underestimated.

Rufus speaks of pestilential buboes as being especially fatal, and found chiefly in Libya (Egypt) and in Syria; he refers to the testimony of Dionysius, who probably lived in the third century B. C. or earlier, also to Dioscorides and Posidonius, who minutely described these buboes in a work on the plague which prevailed in Libya in their time. The great plague described by Livy, and more fully referred to by Orosius, was probably identical, although the symptoms were not accurately recorded.

It is stated that the plague destroyed over a million persons in Africa prior to 221 B. C., but did not make its appearance in Europe until the sixth century A. D. In 542 A. D. the disorder spread over Egypt, passed to Constantinople, where it carried off ten thousand persons in a single day, and appeared in Italy in 543, where it was attended with enormous mortality. Gaul was visited in 546, and from the group of symptoms present Gregory suggested the name *lues inguinaria*. The epidemic which extended over Italy in 565 greatly depopulated the country. In 571 the disease again appeared in Liguria, and Rome experienced a serious epidemic in 590. The disorder extended over the entire Roman world, beginning in the maritime towns and radiating inland; in another direction it extended from Egypt along the north coast of Africa.

Epidemics of the plague are said to have occurred in England in 664, 672, 679, and 683, and in 690 another visitation of

pestis inguinaria is recorded in Rome. Before passing to more recent epidemics, it may be interesting to note that the disease prevailed in Athens in 439-432 B. C., and reappeared within two years; it is recorded that Athens lost more than one-third of its entire population from this disorder alone. Hippocrates mentions having attended patients ill with the plague, and the disease is alluded to in the Bible (*vide* Zachariah xiv) as being peculiar to Egypt; but whether the disorder actually originated in Greece, in Egypt, or in Ethiopia, does not appear to have been definitely settled.

Although Potter's chronologic table of the principal plagues, which appears in Anomalies and Curiosities of Medicine (Gould and Pyle), gives the dates of many epidemics between the years A. D. 690 and 1346 occurring in various parts of England, Turkey, Wales, Scotland, Italy, Germany, Spain, Syria, Egypt, etc., the literature containing details not being accessible to the writer it is impossible to furnish an adequate description thereof. The table refers to one very severe visitation of the plague (in 1345) which spread from Spain "over the whole world," the mortality of which was so great that scarcely a quarter of the human race remained alive.

In this connection it may be interesting to note that according to Potter (*loc. cit.*) the first epidemic of plague occurred in Egypt during the reign of Pharaoh, B. C. 1495, or A. M. 2509, whereas biblical history locates the date B. C. 1491:

> And the Lord said unto Moses and unto Aaron, Take to you handfuls of ashes of the furnace, and let Moses sprinkle it toward the heaven in the sight of Pharaoh.
>
> And it shall become small dust in all the land of Egypt, and shall be a boil breaking forth with blains upon man and upon beast, throughout all the land of Egypt.
>
> And they took ashes of the furnace, and stood before Pharoah; and Moses sprinkled it up toward heaven; and it became a boil breaking forth with blains upon man and upon beast.
>
> And the magicians could not stand before Moses because of the boils; for the boil was upon the magicians, and upon all the Egyptians.
>
> (Exodus, chap. ix, v. 8 to 11 inclusive.)

Potter's table also shows that between B. C. 1495 and the first accurate description mentioned in this dissertation (B. C. 463) there occurred sixteen distinct epidemics of plague in different portions of the old world, some of which were exceedingly destructive—*e.g.*, in 1017 B. C. 70,000 people in Canaan perished within three days; 185,000 died in Rome in 710 B. C.; Velitrae was depopulated in 545 B. C.; one-third of the inhabitants of Jerusalem died of plague in 594 B. C.; and 150,000 of the army of Xerxes in 480 B. C.

The malady raged in Sicily in 1346; in Constantinople, Greece, and Italy early in 1347, and also in Marseilles in the same year. (It appears to have passed by the way of Armenia into Asia Minor, thence to Egypt and northern Africa; nearly the whole of Europe was overrun by the pestilence.)

In 1348 the disease attacked Spain, northern Italy, Rome, eastern Germany, parts of France (including Paris), and England; from the latter country it was conveyed to the Scandinavian possessions. The disorder appeared in London during November, 1348. It prevailed in the midlands in 1349, and in subsequent years, at least until 1357, it was encountered in different parts of the country. In 1352 Oxford lost two-thirds of her academical population from the ravages of this disease alone. It is estimated that during the fourteenth century not less than twenty-five millions of people in Europe, or about one-fourth the entire population, succumbed to the plague (Hecker).

During the fifteenth century the plague recurred frequently throughout European countries. It was especially destructive to life in Italy, Spain (particularly Barcelona and Seville), Germany, and England; London was severely visited in 1400, also in 1406, and again in 1428. In 1427 about eighty thousand persons died of the plague in Dantzic and the neighborhood, and in 1438-39 Germany was again visited. During 1448-50 records show that the disease prevailed in Italy, Germany, France, and Spain, attended by an enormously high mortality. The next outbreak in England occurred in 1472. In 1466 forty thousand persons died of the plague in Paris; in 1477-85 the cities of northern Italy were devastated, as was Brussels in 1485. London suffered another destructive visitation in 1499-1500.

The sixteenth century was not more free from the plague than the fifteenth. Simultaneously with a terrible pestilence which nearly depopulated China, the plague prevailed over Germany, Holland, Italy, and Spain in the first decade of the century, and revived at various times in the first half. Edinburgh was visited in 1529, London in 1537-39 and again 1547-48; the malady also prevailed in northern England during the last two years mentioned. It was about this time that the question of contagion of the plague began to receive consideration at the hands of the profession. The disease had also to be differentiated from typhus fever, which appeared during this century in Europe.

The epidemic of 1563-64 which occurred in England was exceedingly severe, a thousand persons dying weekly in London.

In Paris about this time plague was an every-day occurrence, of which it is said some were less afraid than of an ordinary headache. In 1570 two hundred thousand persons died in Moscow and the neighborhood; fifty thousand at Lyons in 1572; Newcastle was visited in 1570, Edinburgh in 1568 and 1574. When in 1575 a so-called "new wave" of plague passed over Europe, its origin was referred to Constantinople, whence it was said to have spread by sea to Malta, Sicily, and Italy, and by land through the Austrian territories to Germany. Other observers contended that the disorder originated locally—indeed, that considering previous history no importation seemed necessary to explain its presence in Europe. Italy suffered severely; seventy thousand people died in Venice in 1576 from this scourge. Breslau in 1585 experienced the most destructive epidemic known in its history. The great plague of 1592 in London seems to have been a part of the same epidemic, which was hardly extinguished by the end of the century, and is noted in London again in 1599.

In the first part of the seventeenth century the plague was still prevalent in Europe, but considerably less so than in the middle ages: 1603 was marked by a destructive epidemic which carried off thirty-eight thousand people in London; the disease was widely diffused in England (Oxford, Derbyshire, Newcastle); it prevailed at the same time in Holland, and had done so some years previously in northern Germany; in the same year (1603) one million persons are said to have died of the plague in Egypt. London was not free from the plague at any time during the next eight years, and showed a mortality in 1609 (the second great plague year in London) of about twelve thousand. During 1620 the disorder again began to spread in northern Europe, especially Germany and Holland; 1625 was the third great plague year in London, with about thirty-six thousand deaths. The great plague of Milan occurred in 1630, and in 1632 Derbyshire was visited by a severe epidemic. The fourth great plague of London is recorded in 1636, with a mortality of about eleven thousand, and in the succeeding year three thousand persons died of the same disease. During the same year over one-third of the inhabitants of Newcastle died of the plague; it was prevalent at Hull in 1635, and raged in Holland about the same time—1635-37. The fifth epidemic in London was in 1647.

In 1556 one of the most destructive of all recorded epidemics in Europe prevailed at Naples, three hundred thousand persons dying within five months. The disease passed to Rome,

where it carried away over fourteen thousand people; Genoa lost sixty thousand inhabitants; and Minorca is said to have been depopulated. The epidemic spread in the next few years over Spain and Germany, and later Holland, where Amsterdam in 1663-64 suffered a mortality of fifty thousand; Rotterdam and Haarlem were visited in 1664, as was also Hamburg.

The great plague of London in 1664-65 resulted in the death of about sixty-nine thousand persons in that city; the disease was widely spread over England, and was regarded as having been transmitted from London, as places near the metropolis were earliest affected, as Brentford, Greenwich, and Deptford; thence to Southampton, Sunderland, Newcastle, etc.; and a wider distribution occurred during the following year. Oxford entirely escaped. The plague is said to have spontaneously disappeared from England in the year 1666, and a similar cessation was noted soon after in the greater part of western Europe.

In 1666 a severe epidemic prevailed in Cologne and on the Rhine, which was prolonged until 1670 in that district; the disease was observed in the Netherlands in 1667-69, but there are no definite notices of it after 1672; France saw the last plague epidemic in 1668, until it reappeared in the succeeding century (1720).

During 1675-84 a new epidemic of plague appeared in north Africa, Turkey, Poland, Hungary, Austria, and Germany, progressing generally northward. Malta lost eleven thousand persons in 1675. The plague of Vienna in 1679 was exceedingly severe, causing the death of over seventy-six thousand persons; Prague lost eighty-three thousand of her population in 1681; Dresden was visited in 1680, Magdeburg and Halle in 1682, the latter city losing about half her inhabitants. Many north German cities suffered severely about the same time; in 1683 the plague disappeared from Germany until the epidemic of the next century (1707). In Spain it ceased about 1681. In Italy certain cities were attacked until the end of the century, but not later (Hirsch).

At the beginning of the eighteenth century the plague was prevalent in Constantinople and along the Danube; in 1703 it caused great destruction in the Ukraine. In 1704 it spread to Poland, later to Silesia, Lithuania, Prussia, Germany, and Scandinavia; in Prussia and Lithuania two hundred and eighty-three thousand persons perished; Dantzic, Hamburg, and other northern cities suffered severely. Copenhagen was attacked in 1710; in Stockholm the mortality was forty thousand. The western

limit of the epidemic was near Brunswick, and the cholera was arrested at the same spot in later years (Haeser).

The disorder spread from the Danube to Transylvania and Styria, and in 1713 appeared in Austria and Bohemia, causing great mortality in Vienna; thence it passed to Prague and Ratisbon. Haeser states that the plague disappeared everywhere in Europe after the great hurricane of February 27, 1714.

In 1717 an epidemic raged in Constantinople, and in 1719 it made fresh progress westward into Transylvania, Hungary, Galicia, and Poland. In 1720 Marseilles suffered an epidemic, said to have been transmitted from Syria, where the plague at that time prevailed. The pestilence was fearfully severe in Marseilles; thousands of unburied corpses filled the streets; in all about sixty thousand persons were carried off. An outbreak occurred in Arles and Aix in 1720, and in Toulon in 1721 it destroyed two-thirds of the population.

In the year 1743 an outbreak of plague occurred in Messina (Sicily), which destroyed about fifty thousand people, and then became extinct without spreading to other parts of Sicily. In 1738-44 the disease was observed in the Ukraine, Hungary, the borders of Carniola, Moravia, and Austria, extending along the Carpathians as far as Poland, and also in Bukowina; it lasted until 1745, and then disappeared from those parts for fifteen years. In 1755-57 the disease prevailed in certain districts of European Turkey, whence on one occasion it extended into Transylvania—in the neighborhood of Cronstadt—where it was checked.

In 1770 a destructive epidemic arose in Moldavia, proceeding to Wallachia, also Transylvania, part of Hungary and Poland; but was confined to Podolia, Volhynia, the Ukraine, and the eastern portion of Galicia, not even penetrating as far as Warsaw. After destroying three hundred thousand persons the disorder died out in March, 1771, being remarkable for its short duration and spontaneous limitation (Haeser). In another direction the plague spread over Little Russia in 1770 and desolated Kieff, and during the following year it destroyed more than fifty thousand people in Moscow, nearly one-fourth the entire population.

Transylvania was again visited in 1785, Slavonia and Livonia (district of eastern Galicia) in 1795-96, Volhynia in 1798; there was an epidemic in Dalmatia in 1783-84, and in 1799-1800 there was a new outbreak in Syria and Egypt.

The plague appeared at Constantinople in 1802-3, about the

same time in Armenia (Kars), and in 1801 in Bagdad; it had prevailed since 1798 in Georgia and the Caucasus, and in 1803-6 began to spread into Russia; in 1806 it was established near Astrakhan, and in 1807 reached Zareff, two hundred miles higher up the Volga. The disease remained in Caucasus and Georgia until 1819, and in 1828-31 it was recorded in Armenia, and again in 1840-43, since which time it has not been heard of in that country.

The disease was observed at Constantinople in 1808, and in 1809 at Smyrna; in 1812 a more general epidemic prevailed at these places, and also in Egypt. An outbreak at Odessa and another at Bucharest were thought to have been brought from Constantinople; about the same time the plague prevailed in Bosnia, passing thence to Dalmatia in the year 1815. In 1814-15 it again appeared in Egypt, and once more invaded the continent of Europe in Albania and Bosnia. Outbreaks are recorded at Malta in 1813 and Corfu in 1815. A panic spread through Europe in 1815 in consequence of an outbreak in Noja on the eastern coast of Italy, its last appearance in that country. In 1828 an isolated epidemic occurred in Greece, said to have been brought from Egypt. In 1824-25 an outbreak took place at Tutchkoff in Bessarabia, and Cronstadt in Transylvania was the scene of a small epidemic in 1828. A more serious visitation is recorded in 1828-29; Moldavia, Wallachia, and Bessarabia were widely affected; the disease broke out also in Odessa and the Crimea, and isolated cases occurred in Transylvania.

During the year 1831 another epidemic occurred in Constantinople and Roumelia; again in Roumelia and Odessa in 1837—its last appearance in those regions, and the last on the European continent, except an isolated outbreak in Dalmatia in 1840, and one in Constantinople in 1841.

The epidemic which appeared in Egypt in 1834-35 was not less destructive than many of those which occurred previously; in 1844-45 the disease disappeared and has never been seen since in the country which for centuries was regarded as its native home. Since the apparent extinction of the plague in Egypt (1845) it has appeared in several portions of Asia and Africa, and once in Europe.

In 1853 the disease was observed in a district of western Arabia, the Asir country in north Yemen, and is known to have occurred in the same district in 1815, as it did afterward in 1874 and 1879. In 1874 the disease is said to have extended within four days' march of Mecca.

There occurred a small epidemic in 1855-58 at Benghazi, a small town in north Africa; the disease did not spread, and died out in 1859. It recurred in 1873, but again terminated spontaneously and has not been observed in that locality since. After the epidemic of Benghazi the plague was next heard of in the extreme northwest of Persia (Maku) in 1863. In 1867 an outbreak was reported in Mesopotamia (Irak), and a severe epidemic prevailed in Irak in 1873. In 1877 the disease was observed at Shuster (Persia), probably conveyed thither by pilgrims returning from Irak. The mortality was large. Mesopotamia was again visited in 1876-77, the disorder extending over a wider territory than formerly, but the mortality was inconsiderable. A few cases of the plague occurred in 1877 at Baku, on the west shore of the Caspian, in Russian territory.

The next serious outbreak was that of 1878-79, which appeared along the Volga, and which caused a panic throughout Europe. Until 1850 the disease had not reached further north than 45 degrees, but later extended to 60 degrees north, prevailing in Moscow, Norway, and Sweden. In 1892-93 epidemics occurred in Tonkin, Hongkong, Bombay, Kurrachee, Poonah, etc., the mortality being particularly severe at Bombay, Hongkong, Amoy, Calcutta, and Formosa.

In 1892 the plague existed in Yunnan (China), which adjoins French Tonkin and British Burmah, and in 1893 it appeared at Long-Cheou (Quansi) among the Yunnan mule drivers. From Long-Cheou the disease descended the Canton River and reached Naning-Phu, thence proceeded overland one hundred and fifty miles to the seaport Pakhoi. In February, 1894, it reached Canton, either by descending the river from Naning-Phu or by boat from Pakhoi. That the disease had lost none of its old-time destructiveness is illustrated by the fact that in Canton (1894) it caused no less than 100,000 deaths within two months.

From Canton the disease spread to Hongkong in April, 1904.* In the autumn of 1894 the malady died out in Hongkong, only to reappear in 1895-96. Hongkong being an important maritime center, it is not surprising that the disorder was transported (1896) to the Island of Formosa and to Bombay. The sanitary conditions in India were then extremely unfavorable owing to the existence of a famine, plus filthiness and overcrowding of the population, and despite such precau-

*It was during this epidemic that the first bacteriological studies of the plague were made, and which resulted in the discovery and isolation of the bacillus which is said to be the cause of the disease.

tionary measures as were possible under existing circumstances the disease spread rapidly, causing about two thousand deaths per week in Bombay. It is reported that fully 300,000 people fled from Bombay shortly after the plague appeared, and these refugees, distributing the infection to neighboring towns, contributed to the enormous dissemination of the disorder through out western India. In the Presidency of Bombay there were reported in less than three years over 220,000 cases with more than 164,000 deaths.

From Bombay the disease spread to ports on the Persian Gulf, on the Red Sea, and reached Alexandria. Aden, Djeddah, Port Said, and Cairo suffered outbreaks, and isolated cases were observed in London, Vienna, and St. Petersburg.

In 1899 the plague appeared in Oporto (Portugal), outbreaks occurred in Koloborka (a village near Astrakhan, Russia), also in Glasgow, and the disease insidiously spread to the countries of East Africa. Mauritius, Madagascar, and the adjoining mainland of Mozambique and Lorenzo Marquez became more or less infected; also the Ivory Coast in Western Africa. In the autumn (1899) the disorder reached South America, cases being observed at Rio Janeiro and Santos (Brazil), likewise at Asuncion (Paraguay). Later (November, 1899) two cases of plague were discovered in the New York harbor aboard a coffee ship from Santos, and one man was lost at sea from the disease; several cases also developed on ships bound from Santos for Mediterranean ports. About the same time cases were reported from Kobe and Osaka (Japan), and later from Sydney (Australia) and Noumea (New Caledonia). Manila (P. I.), Honolulu (Hawaii), and San Francisco (California) successively became infected, the disease attacking principally the native or Oriental population.

In 1900 Alexandria (Egypt) was visited by an insignificant epidemic of the plague. During the period March 1900 to January 1903 there were ninety-six cases observed in San Francisco (Chinatown); of these ninety-two died and four are said to have recovered. During 1903 less than a dozen cases occurred in this locality. The disease appeared at several cities in Mexico in 1902-03, notably Mazatlan, Torporico, and some of the interior towns of Sonora, the mortality being in round figures ninety per cent, or about the same as has attended later outbreaks of the malady in the Orient; in the earlier epidemics practically all those who contracted the disease died.

In 1902 it was reported that the plague was steadily increas-

ing in Manila despite the adoption of stringent prophylactic and precautionary measures, and during 1901 the disease appeared not to have died out in India. In the Bengal Presidency the weekly mortality was over two thousand, and in Bombay the deaths reached 94 per cent. The disease prevailed in every part of India except the central provinces.

France admitted the presence of the plague within her borders (Marseilles) in 1903, and if reports can be relied upon the disease still prevails to greater or less extent in Japan, India, China, Russia, Australia, etc.*

It is not impossible that a general and wide-spread epidemic of plague may at no remote period invade the limits of the United States—indeed, it may be said that this country is distinctly threatened, not only from the East Atlantic and South Atlantic, but also from the Pacific. The Pacific ports are perhaps the greatest danger, owing to the direct communication with the Orient.

Dr. John W. Brannan, president of the Board of Trustees of Bellevue and Allied Hospitals, last week dismissed Dr. Dubois Hunt, one of the internes at Gouverneur Hospital, for branding Isaac Chaves, an immigrant, who complained that he had been branded by a doctor at Bellevue Hospital, says an exchange. Dr. Gregory, the acting superintendent at Bellevue who suspended Dr. Hunt, said that the interne had confessed to branding the word "Fakir" on the immigrant's chest. According to the story told by Dr. Hunt to Dr. Gregory, Chaves had repeatedly visited the institution, complaining of pains in the chest. He had been treated several times, in a superficial manner, and on the occasion of his last visit it was decided to give him what is known as the "thermocautery treatment." Dr. Hunt was applying the treatment in the operating-room, when one of his fellows remarked, "That man is a fakir." The remark lingered in Dr. Hunt's mind, and without thinking he says his hand followed the lines of the letters "F-a-k-i-r." Dr. Hunt is a native of Toronto, Canada, and is a graduate of the Toronto Medical School of the class of 1903.

*In India during the week ending March 4, 1905, it is reported there occurred 34,000 deaths from the plague, and a fatal case was found recently on a steamer arriving at Liverpool from an eastern port. According to a dispatch from Panama a fatal case of bubonic plague occurred at La Boca June 23, 1905. It is presumed an infected individual was brought via steamer from some South American port.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE EVILS OF PROSPERITY.

A rather interesting confirmation of that which must have more or less often come to the mind of the reflective observer is reported from Wales. Seventeen per cent of the inhabitants of the county of Glamorgan are directly employed in the coal industry. During the course of the last twenty-eight years the scale of wages has fluctuated in conformity with the price of coal, and this has afforded an excellent opportunity of studying the effects of elevated wages upon the mental and sanitary life of the people. In 1879, when wages were the lowest, this county had less than half the admissions to asylums than that which prevailed in England and Wales in general. Since that date the proportion has changed, until to-day the county of Glamorgan has little less than the same proportion of aliens as the rest of the country. It has been noticed, however, that this increase has not been accomplished in a uniform manner, but that every time wages increased there was a concomitant increase in the number of insane cases detained, and *vice versa*. There existed in fact a genuine parallelism between the rise of wages and the amount of mental alienation. When coal was the dearest wages were the highest, and at this period the smaller quantity of coal was mined; so that during the good seasons the miners were paid more but produced less. The increase of wages and the increase of leisure therefore appear as the two important factors in the production of insanity. In the first half of the period 1875-1902 an augmentation of wages of 10 per cent was accompanied by an increase of 835 drunkards and 31 dements per 100,000. In the second half of the period, with an increase of 32 per cent in wages, there were 1119 drunkards and 45 dements.

It may then be asked if it is indeed established that the increase of material prosperity produces, as is so often stated, an amelioration of the physical or mental state of a nation. History has made us familiar with examples of that condition of affairs where wealth accumulates and men decay. The magnates of the Standard Oil in our own day are not being held up to public admiration as exemplars of all the virtues. If the augmentation of material comfort in working-class communities only tends to limit self-control and so make the subject of it susceptible to alcoholic and other abuses, what must be expected of it elsewhere? If the increase of leisure does not find employment in sane recreations, it is evident that these new conditions of life can only lead to results disastrous to the mental and physical future of the population.

EDITORIAL NOTES.

Nursing Taught by Correspondence.

We have recently had brought to our notice a circular which has been sent broadcast over the country offering to teach young women the profession of nursing by correspondence. The circular abounds with misleading statements evidently written to appeal to sentimental women. This so-called school asks no qualifications of its applicants, either physical, mental, or moral, and states that its graduates can readily earn from $12 to $30 a week. Such schemes as these to extract money from unsuspecting women cannot be too severely discountenanced by both the medical profession and the trained nurses. Nursing cannot be taught by a correspondence school, for only by actual training in a well appointed hospital and under the guidance of competent instructors can a woman learn to care properly for the sick.

To Prevent the Wastage of Child Life.

A novel method of increasing the birth-rate has been inaugurated by the mayor of Huddersfield, England, who has come out with the statement that he will give to the mother of every child born while he holds office a promissory note of one pound payable a year after birth if the baby lives that long. By this method he hopes to prevent the wastage of child life by making

it worth while for the parents to be careful about their children. It would seem that if the mothers did not care enough for their offspring to properly care for them, the offer of a paltry five dollars would not influence them very much. To put a money value on maternal care is neither commendable for its precepts nor meritorious for its effects.

Cancer Serum Ineffectual.

Some time ago it was dramatically announced by Dr. Doyen, the well known Parisian surgeon, that he had perfected a serum which would cure cancer. He asked the Paris Surgical Society to appoint a committee to investigate his claims. This was done, and after five months spent in investigating the facts these experts have submitted their report to the society. It is anything but favorable. According to the report the serum when first used causes a temporary improvement in some cases, but it never cures. Of the 26 cases examined, 20 became much worse under the treatment. The opinion is expressed by the committee that Dr. Doyen mistook his desires for facts.

Tapeworm as a Cure for Tuberculosis.

According to a report received at the State Department from William C. Canada, United States Consul at Vera Cruz, Mexico, the statement is made that two Mexican scientists have discovered that the tapeworm prevents the organism from being infected with tuberculosis bacilli. The physicians who advance this discovery claim to have established its accuracy by having injected the live cure into several patients, all of whom recovered. To be afflicted with tuberculosis is in itself an awful calamity, but to have injected a live tapeworm, even with the hope of effecting a cure, seems an undesirable remedy.

The Profession of Getting Hurt.

A writer in *Pearson's Magazine* for June and July contributes two articles in which he shows that malingering has become a fine art. He cites a number of cases in which damages were sought and obtained from railways and municipalities by this

means. While the writer has not brought forth much that the average physician is not cognizant of, it certainly leaves a bad taste in the mouth of the medical reader to learn that there are so many physicians who will allow themselves to be used in such cases. In one hundred cases brought last year against the city of Chicago, the same physician was found to have been in attendance. Such men who allow themselves to be the tools of corrupt attorneys should be read out of the medical societies.

Severe Sentence for a German Quack.

In Germany the medical profession is having a hard time fighting the quacks, but when one is convicted his sentence is apt to be a severe one, as the following shows: A quack in Lüneberg, whose former occupation was that of a fishmonger, advertised and sold a remedy which he claimed to be an absolutely certain cure for tuberculosis of the lungs. This claim was held by the authorities to be fraudulent, and he was arrested, convicted, and sentenced to serve six years in prison. A few more convictions with similar sentences will do a good deal toward making the way of the quack anything but a bed of roses.

Food Adulterations Advertised.

In Paris the municipal authorities are making efforts to keep the food supply pure. If a Parisian suspects that any article of food he has purchased is adulterated he has the privilege of taking it to a municipal laboratory, where it will be analyzed free of charge. The city undertakes the prosecution, if need be, of the offender, who, if the case be proved, is liable not only to fine and imprisonment, but to the exposure in his shop window of a notice of "conviction of adulteration." Methods of this nature, whereby the public is informed as to who sells adulterated food, will soon put a stop to such practices.

ITEMS AND NOTES.

Harvard University Medical School graduated a class of 82 on June 28.

The anxiety caused by the danger of an epidemic of cholera in Russia is growing.

The women physicians of Russia will hold a congress this year at St. Petersburg.

Dr. G. Frank Lydston has been made a fellow of the London Society of Authors.

The German Public Health Society held its annual general meeting this year at Munich from July 7 to 9.

The medical college at Bahia, Brazil, with its equipment and valuable library has been destroyed by fire.

The Sixth International Congress of Applied Chemistry is to be held in the spring at Rome next year.

Germany now has more than 9000 beds in the various public and private sanatoria for persons with pulmonary tuberculosis.

C. G. Dwight, M.D., has been elected to the professorship of otology, rhinology, and laryngology of the Chicago Eye, Ear, Nose, and Throat College.

The House of Cards, a book issued anonymously, has been attributed by a professor of English in one of the large universities to Dr. S. Weir Mitchell.

The annual address in medicine this year at the Yale University commencement was delivered by Prof. A. Jacobi, M.D., LL.D. His subject was "The Era of Therapy."

Dr. Florence R. Sabin has been appointed associate professor of anatomy in Johns Hopkins University. She is a graduate of Smith College and of the Johns Hopkins Medical School.

Frau Liza Schenk, a professional faster in Hamburg, recently committed suicide by hanging because, says an exchange, she was starving, owing to her failure to get fasting engagements.

THE Munich Neueste Nachrichten is authority for the statement that a certain Frau Hilgen, of Trostberg, in Bavaria, has borne no less than six children in one year. She was delivered of triplets in January, 1904, and bore triplets again the following December.

THE Laryngological Society of Vienna announces that a celebration will take place in Vienna, under its auspices, of the centennial of the foundation on a practical basis of clinical laryngoscopy by Turck. The laryngologists of the world will be asked to take part.

ONE of the latest places announced to be infected with plague is Amoy, China, a treaty port trading principally with the island of Formosa, where bubonic plague has prevailed extensively. Amoy, an unsanitary city situated on an island opposite the center of Formosa, is also in commercial relations with Bombay, Bengal, Shanghai, and Formosa. The inhabitants are principally engaged in the coasting trade. The export trade of Amoy, once extensive, has diminished in late years owing to the decreased popularity of China.

JUDGE JAMES LEATHERS, of the Marion County Supreme Court, has, we learn from an exchange, decided in the case of the State against W. W. Lowry, indicted for smoking a cigarette, that the anticigarette law passed by the last legislature is constitutional, except wherein it may conflict with the interstate commerce law. Smokers may import cigarettes from other States and smoke them, but it is held unlawful to sell or give them away. Mr. Lowry was discharged. The State will make an appeal in order to test the law.

THERE is some anxiety in St. Petersburg lest an epidemic of cholera add to the troubles of that unhappy country, says an exchange. A dispatch from Sosnovice, Poland, reports that deaths are occurring daily there, and that three suspected cases are reported at Tula. The authorities of both these cities have ordered anticholera inoculations in the infected regions. At Harbin about 100 deaths occur daily from cholera and dysentery, and it is feared that the disease may spread thence along the Siberian railway into European Russia.

A FRENCH military surgeon in Algiers has, according to a writer in *Harper's Weekly*, recently found that spray driven ashore from a stormy sea can effectively transmit disease germs.

Carrying on his investigations at Bab-el-oued near Algiers, at a point where a number of sewers discharge into the sea, he found that the spray, which was driven some 150 feet ashore and high into the air, contained three times the number of germs ordinarily present in the air. This spray forms a mist, which permeates the houses near to the water's edge, and in it a number of virulent bacilli were found. When a gale is blowing off shore the effect is still more pronounced and the proportion of germs increased, and the investigator is convinced that steps should be taken to protect shores from sewage pollution.

After two years of consideration, the Board of Estimate and Apportionment has finally taken action definitely committing the city to the new Bellevue Hospital project, says the *Medical Record*. The original plans, which involved an estimated outlay of $10,000,000, have been modified so as to reduce the expected cost of the building to $8,500,000, and the board has authorized an appropriation of $850,000 in corporate stock to be used for the erection of two pavilions. These are to form the northernmost sections of the new hospital, and are to be erected on property recently acquired by the city between Twenty-eighth and Twenty-ninth Streets, First Avenue, and the East River. These pavilions will meet the immediate requirement for additional space in Bellevue and alleviate the overcrowded conditions which now exist, and also accommodate patients from other buildings that are to be razed to make room for the next section of the new structure.

An organization known as the National Food Manufacturers' Association, with headquarters in Chicago, has been formed, says the *Medical Record*, for the purpose of protecting "the legitimate manufacturers of food and food products and the consumer against adulterated, fraudulent, and unwholesome food." Dr. Harvey W. Wiley, chief of the Bureau of Chemistry, has gone to Europe under instructions from Secretary Wilson to make an exhaustive investigation of methods of preparing and preserving food products for shipment to America. He will visit all the leading cities of Europe which have an export food trade with the United States, and will be gone until the middle of September. The policy is to have a more rigid inspection of foods. Upon his return laboratories will be established in Boston, Philadelphia, New Orleans, and Chicago. At present the only inspection laboratories are in New York, San Francisco, and Washington.

NEW PUBLICATIONS.

NERVOUS EXHAUSTION.

But minor changes are to be noted in this well-known text-book, its author, George M. Beard, being the pioneer in the special field of the fatigue neurosis. He analyzes carefully the psychic and nervous attitude of neurasthenia, and discusses diagnosis and treatment at length. He is probably more confident and enthusiastic about the results to be secured through drugs than are most successful therapists of the present day. If more insistent on drugs, he is also less emphatic as to the advantage of hydrotherapy in the management of neurasthenia than we believe he should be.

A chapter has been added upon the Neuron Theory in its Relation to the Treatment of Neurasthenia.

A Practical Treatise on Nervous Exhaustion (Neurasthenia). Its Symptoms, Nature, Sequence, Treatment. By George M. Beard, A.M., M.D. Edited with Notes and Additions by A. D. Rockwell, A.M., M.D. Fifth Edition. New York: E. B. Treat Co., 1905. Price $2.00.

PHARMACOPOEIA OF THE UNITED STATES OF AMERICA.

The Pharmacopœia shows that the committee on revision have been active, as many changes are to be noted in its contents. There are many changes in the names of well known substances, and words which have been incorporated into popular language have sometimes been dropped, as in the case of carbolic acid (phenol). The future of the Pharmacopœia seems now to be in good hands, and every provision made for its careful and systematic revision at periodical intervals. The present volume is a very creditable example of the committee's work.

The Pharmacopœia of the United States of America. Eighth Decennial Revision by Authority of the United States Pharmacopœial Convention held at Washington, A. D. 1900. Revised by the Committee of Revision and Published by the Board of Trustees. Official from September 1, 1905. Philadelphia agents, P. Blakiston's Son & Co. Subagents: New York, E. R. Pelton, 19 E. Sixteenth St.; Chicago, The E. H. Colgrove Co., 65 Randolph St.; St. Louis, C. V. Mosby, 2313 Washington Ave.; San Francisco, Payot, Upham & Co., 100 Battery St.

GROWTH AND DEFORMITY.

This book is a review of orthopedic surgery, with special consideration of the effect of growth. Dr. Judson quotes Hilton as saying that "repair is but the repetition of growth;" natural or artificially rectified growth may thus be counted on in the child or adolescent to substitute for repair, or to supplement it, in the treatment of orthopedic deformities and diseases. The author does not claim to present matter essentially new; the point of view, however, is new and instructive, and the general subject of orthopedic surgery is grouped around this center in such a way as to make the book decidedly interesting and useful.

The Influence of Growth on Congenital and Acquired Deformities. By Adoniram Brown Judson, A.M., M.D. New York: William Wood & Co., 1905.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Spontaneous Gangrene of the Leg in Popliteal Aneurism.

At a recent meeting of the Paris Society of Surgery, M. Arrou (*Lancet,* May 20, 1905) communicated an account of a case which showed that when gangrene followed on an operation for extirpation of a popliteal aneurism it was not always just to blame the operation. M. Arrou said that every popliteal aneurism should be operated on, and that one should never be afraid of operating lest gangrene should supervene, for gangrene might occur in such cases without any operation. He mentioned the case of a woman aged fifty years, who came to consult him for a small tumor in the popliteal space. M. Arrou, finding that it was an aneurism, recommended operation, but the patient refused. One month later she returned with gangrene of the whole leg, which necessitated amputation through the middle third of the thigh. The operation was performed without the loss of one drop of arterial blood, and the femoral artery was completely blocked with a hard, dry clot. For prudential reasons a ligature was placed on this vessel, but this was the only ligature used. What was still more astonishing was that the wound healed by first intention, and that there was not the least sloughing of the flaps.

Intestinal Obstruction.

D. F. Talley (*American Medicine,* May 20, 1905) reports eight cases. He emphasizes the fact that in acute cases the life of the patient depends on early recognition of the obstruction and prompt surgical intervention. However, there are two difficulties in the way of early operation: (1) It is hard to make a positive diagnosis in the first twenty-four hours—indeed, in some cases impossible, unless an exploratory laparotomy is done. (2) There is a tendency on the part of the patient, his friends, and also the physician, to wait and see what purgatives and enemas will accomplish. In view of these facts Dr. Talley advises that when a patient suffers extreme pain in the abdomen,

especially in the epigastrium, which is not relieved by an ordinary dose of morphine, when he vomits and his bowels do not respond in ten to fifteen hours to the usual purgatives and enemas, we should diagnose intestinal obstruction; the error then will be on the side of safety for the patient.

A Method of Uniting Intestines of Very Small or of Unequal Caliber.

T. S. Horsley (*American Medicine*, April 29, 1905) gives a new operation adapted to these conditions. It is impossible to describe the operation satisfactorily without the illustrations. Much of the paper is taken up with experimental work involving the process of repair in intestinal union after suture. The experiments are given in detail, and seem to demonstrate that something more than approximation is needed to secure satisfactory union. A small area of two peritoneal surfaces sutured together was found not to adhere, except where there was pressure of some cause besides mere approximation to excite hypersure or some cause besides mere approximation to excite hypermargin of the intestinal wound is necessary, and that this condition is filled by the continuous suture but not by the interrupted. Photographs of intestines operated upon with casts showing their caliber at the point of union are given.

The Diagnosis and Treatment of Fracture of the Carpal Scaphoid and Dislocation of the Semilunar Bone.

Codman and Chase (*Annals of Surgery*, June, 1905) say that in cases of dislocation of the semilunar without fracture of the scaphoid it is best to attempt bloodless reduction, even if many weeks have elapsed since the injury; or if this fails a palmar incision should be made, and a further attempt made at reduction. In cases of dislocation of the semilunar combined with dislocation of the proximal portion of the fractured scaphoid an attempt at bloodless reduction should be made, and if successful the wrist should be kept fixed to obtain union in the scaphoid; but if bloodless reduction fails, and it is necessary to make an incision, it is better to excise both the fragment of the scaphoid and the semilunar than to replace either one or both. If cases of either of these lesions are not seen until years after the reception of the injury, excision would only be indicated as a means of relieving troublesome pain.

Resection of the Stomach.

W. A. Clark (*Journal of the American Medical Association*, May 20, 1905) reports a case of malignant disease of the stomach involving a large part of the greater curvature and posterior wall, leaving the pyloric and cardiac orifices intact. It was operated on by removing the whole middle section of the organ, leaving only a small portion near each orifice and making an end-to-end anastomosis. A number of enlarged glands were also removed. The patient was fed by enema for a week; after this a gradually enlarged diet was given till the forty-second day, when a small rare steak was allowed. He was discharged from the hospital sixty-seven days after the operation. He reported again two and a half months later suffering only from a small sinus as the result of the operation. The case is reported as of interest because of the extensive malignant disease without any very prominent symptoms, and as illustrating the advantages of early diagnosis.

Intra-abdominal Anastomosis.

A. Groves (*American Medicine*, April 29, 1905) advises the use of the McGraw method, using silk instead of rubber ligatures, and is opposed to the use of antiseptics. The abdominal wound should be closed by the layer method. He urges drainage of the stomach by gastrojejunostomy in cases of gastric ulcer, irremovable pyloric cancer, dilated or displaced stomach, and believes that many cases of dyspepsia and so-called neuroses of the stomach can be cured by drainage. He contends that there are no functional neurasthenic or neuralgic diseases, but holds that all diseases have an organic cause which can be usually found and often removed. Attention is directed to eye-strain as a commonly overlooked cause of intra-abdominal derangements.

Primary Epithelioma of the Epiglottis.

D. B. Delaran (*Medical Record*, May 6, 1905) describes this case, which came under observation so early that a circular area of hyperemia one-quarter of an inch in diameter on the laryngeal surface of the epiglottis was the sole evidence of disease. Six months later a positive diagnosis could be made, and one-third of the epiglottis, including the diseased area, was removed. Nearly two years have elapsed since the operation, but there is no evidence of recurrence.

Acute Posterior Periurethral Abscess.

F. C. Walsh (*Medical Record,* April 22, 1905) says the diagnostic symptoms of this complication of gonorrhea are a history of the disease; pain, generally intense, located deep in the perineum; cystitis; painful, frequent micturition; constipation, with painful defecation; septic temperature; and extreme restlessness and anxiety. Rectal and perineal palpation elicit localized pain. The urethral discharge is usually slight, but always contains gonococci. Prompt treatment by incision and drainage is necessary, and the steps of this are described.

MEDICINE.

Uric Acid.

In the *Journal of the American Medical Association* of May 13, 1905, is completed a series of special editorials critically summarizing what is known of the physiologic and pathologic action of uric acid in the human organism. It is surprising, the *Journal* remarks, what a small bulk of well determined facts has been accumulated, and how much time and labor have had to be spent to prove the erroneousness and harmfulness of most of the speculative views that have been advanced. It is worth much, however, to have learned the chemical and physical qualities and relationships of uric acid; to have distinguished the exogenous and endogenous uric acid of oxidative origin, and between these and that of synthetic source; to be informed even partially as to the methods of its formation and destruction and the approximate localization of these processes in the body; and to have recognized that the substance probably circulates in the blood chiefly as mononatrium urate or in combination with thymin acid. It is also of importance to have learned on the pathologic side that gout is probably the only disease for which disturbances of uric acid metabolism are directly and mainly responsible. The bearing of the facts so far ascertained on the rational treatment of gout is pointed out.

In combating the primary disorder of metabolism we must protect against the influences that favor its development, and we may also attempt to prevent the deposit of excess of uric acid or urates in the body. The formation of exogenous uric acid can be largely controlled by diet, limiting the nucleins and purin derivatives in the food. There is no certain proof that

drugs can diminish uric acid formation, though china acid has been reckoned as one that does so. If it has such effect its mode of action is not known. To increase uric acid excretion the best means is to increase the secretion of urine, hence copious water-drinking is advised. How to destroy uric acid in the body is not clear; there is no proof that there is any diminution of the oxidative processes in gout or any basis for the view that drugs hasten uric acid destruction. The fallacy of the popular so-called "antilithic" and "uric acid solvent" treatment is shown by the fact that it is impossible to produce in the blood and tissue juices exactly the soluble urate needed, and by the further fact that the solubility of any urate is decreased by the sodium salts in the blood. If uric acid is to be rendered more soluble in the blood it must be by the formation of some easily soluble combination with other organic compounds with production of substances which are not dissociable—*i.e.*, which are not salts. Uric acid combines with thymin acid in this way, and also with formaldehyde, forming a non-saltlike compound, but it is doubtful whether such substances ever really exert any beneficial influence in gout. On the whole the best that can be expected from drugs at the present in gout appears to be the relief of pain by the salicylates, colchicum, etc. The mainstay of the therapy in the disease consists in a well regulated regimen for the acute attacks, rest and local applications, and for the tophi in the joints local phagocytic activity may be excited by means of hot applications and massage.

Intermittent Claudication and Allied Syndromes Due to Angiosclerosis of the Extremities.

T. P. Hunt (*Medical Record,* May 27, 1905) contributes an exhaustive study of all aspects of this affection, which was first described by Charot in 1858. The literature since that time is reviewed, and alcoholism, syphilis, gout, nicotinism, diabetes, exposure, flatfoot, compression by a truss, aneurism, the neuropathic diathesis, and congenital insufficiency of the cardiovascular apparatus, are cited as etiological factors. The pathological findings may be summed up in the one word angiosclerosis, though in advanced cases secondary changes of a trophic nature frequently occur, and the vasomotor element is also of importance in producing the spasms. While the typical picture of the disease comprises intermittent limping, with the paroxysm during activity and complete freedom during rest, sensory symp-

toms and weakness may in some cases be present more or less constantly and give rise to errors in diagnosis. Cases in which the anus, rectum, or bladder, brain, kidney, or retina, were affected have been recorded, and it is also thought that the paroxynms of angina pectoris were referable to a similar condition of the coronary arteries. The prognosis as regards cure is unfavorable, but if suitable treatment, consisting of rest, potassium iodide, cardiac tonics, warm foot-baths and galvanic foot-baths, is given, much may be done toward warding off indefinitely the threatened gangrene. Digitalis, ergot, nitroglycerin, very hot or very cold baths should be avoided.

Four illustrative cases are described, and in conclusion the author says that angiosclerosis of the extremities in its gravest form, complicated by a vasomotor neurosis, leads to spontaneous gangrene. If the angiosclerosis occurs in combination with a vasomotor instability and a tendency to vasomotor spasm, the syndrome of intermittent claudication results. This is characterized by the development of sensory (pains and paresthesia) and motor (weakness and rigidity) manifestations during functional activity, with a rapid and permanent restoration to the normal during rest. The syndrome, however, has a wider and more general application to the whole circulatory mechanism, and has been observed in relation to various organs of the body (heart, intestines, brain, kidney, and eyes).

Toxemia of Intestinal Origin as a Condition Predisposing to Minor Infections.

H. A. Houghton (*Medical Record,* May 27, 1905) says that the decrease in vitality predisposing to infection is sufficiently clear in chronic toxemias. Contracting kidneys, diabetes, prolonged lithemia, all furnish conditions for the easy introduction and rapid development of sepsis, hence in major toxemias we are usually able to uncover the etiology. Thirty cases of minor infections are described, in nearly all of which a toxemia of intestinal origin appeared to be present. Examination of the urine showed that twenty-seven cases out of thirty had an excess of indican, one case presented glycosuria and indicanuria, one glycosuria, and one tuberculosis. The conclusion is that in many cases of vital decrease manifested objectively by minor septic infections, toxemia of intestinal origin may be regarded as the predisposing cause.

The practical bearing of this conclusion is far-reaching and

explains such problems as that encountered by the surgeon when two patients of apparently similar vitality show a great difference in recuperating powers after the same operation, or why one exposed person contracts an infectious disease and another does not. The practical application of the conclusion means attention to the proteid fermentation taking place in the bowel, particularly in those cases in which the urine presents a large amount of indican. It is not sufficient simply to produce evacuation of the bowels. The indicanuria must be treated by diet and other procedures looking toward its complete cessation. This will undoubtedly completely cure many troublesome cases of recurring minor infections.

Puberty and Epilepsy.

Wm. P. Spratling (*New York Medical Journal,* May 20, 1905) says that we can and must, in many cases of epilepsy that appear during the twelfth to the sixteenth and eighteenth years, coincident with the establishment of the menstrual flow in women, and with the passing of boyhood into manhood, ascribe to these changes the power of inducing well defined convulsions that may be epileptic. Except in the most remote and exceptional instances, these periods alone in normal individuals have no power to induce epilepsy or even epileptoid phenomena. By searching carefully we shall find in most cases of epilepsy at this period, either a previous history of convulsions, usually in infancy, or a family and personal history so tainted with a tendency to disease that epilepsy under the stress of puberty is plainly invited.

Mitral Stenosis.

Fred P. Henry (*American Medicine,* May 20, 1905) says the diagnosis of mitral stenosis in the first stage is comparatively easy. At that time there is a presystolic murmur, easily recognized as such by the fact that it is followed by the first and second sounds, both audible at the apex. The second stage is indicated by disappearance of the second sound at the apex, this being due to dilatation and hypertrophy of the right ventricle and feeble propulsion of blood into the aorta. The presystolic murmur continues. According to the literature the onset of the third stage is, in contradistinction to this, marked by disappearance of the presystolic murmur and the establishment of signs

of tricuspid regurgitation. Again and again he has heard a typical low-pitched, rumbling, presystolic murmur, coinciding with pulsation in the veins of the neck, a few hours before the death of the patient. Another phase of mitral stenosis which Dr. Henry emphasizes is an extreme arrhythmia, a veritable delirium cordis, which may persist without intermission for months or even for years. In such cases there is no murmur, and in them it is impossible to distinguish the sounds from each other. The arrhythmia may continue indefinitely and constitute the chief expression of the lesion. The clinical syndrome of these cases is as follows: Marked anemia, with somewhat dusky skin and cyanotic lips; a tendency to bronchial catarrh; marked periods of improvement, with little or no diminution of the arrhythmia; and no edema whatever, or none until shortly before death.

Enterogenic Cyanosis.

Hyams and Bergh (*Deutsche Arch. für klin. Med.*) say there have been reported by Stoksis and Talma during the last three years four cases of autotoxic enterogenic cyanosis. Bergh cites two cases under his observation. In the first case, a boy nine years of age, the spectrum showed bands of sulphohemoglobin, whilst in the second case, that of a young man, the spectrum was that of true autotoxic methemoglobinemia. The cyanosis was intense in both cases, but varied at intervals; it differed from carbon dioxide cyanosis in that the tint was more of a violet. Both cases had severe intestinal catarrh, but no cardiac defect was apparent. The spectrum was observed by holding the instrument to the anterior surface of the ear and an electric light behind it. The cyanosis disappeared with the intestinal trouble.

Experimental Production of Lymphocytic Exudate.

F. Proscher (*Virchow's Archives,* clxxix) during his studies on immunity in tuberculosis discovered a substance which when injected into guinea-pigs produced an exudate consisting almost entirely of lymphocytes. This substance is derived from the intracellular toxin of the tubercle bacillus. When this substance was injected into the peritoneal cavity of a guinea-pig the author was able to follow the transformation of endothelial cells into mononuclear cells, with the aid of the microscope. He believes that the missing link in the evidence which demonstrates the

formation of lymphocytes out of fixed connective tissue cells is thus supplied, and that light is thrown on the development of the tubercle.

Lobar Pneumonia in Children.

Marion Hull (*American Medicine*, May 27, 1905) directs attention to the greater frequency of this variety of pneumonia in children than is ordinarily supposed, and the characteristics of the childhood type—its greater tendency to begin without a chill and to terminate by lysis; for resolution to be delayed and to be followed by abscess of the lung or empyema; and the greater frequency of otitis as a complication on account of the anatomic peculiarities of the Eustachian tube in children. Otitis has occurred in fifty per cent of Dr. Hull's cases, in many without pain. Difficulty of early diagnosis is characteristic. The degree of leucocytosis may be of value in determining the prognosis.

THERAPEUTICS.

Tolerance to Nitroglycerin.

According to D. D. Stewart (*Journal of the American Medical Association*, May 27, 1905) an excessive tolerance to nitroglycerin can be readily acquired if care is not taken to avoid a too rapid increase of the dose; hence the drug, though intelligently employed, is often of little service. He refers to earlier articles of his on the subject, and especially to a case before mentioned in the *Journal of the American Medical Association*, in which 50 minims of a 10-per-cent solution was taken daily without any very marked effects. The best rule for giving the drug for its effects on blood-pressure is, in his opinion, to administer it four times a day in dose just sufficient to produce the slightest feeling of fulness in the head or to slightly quicken the pulse. If more than this is given an undesirable tolerance is likely to be established. When a rather rapid increase seems needed to keep up a constant effect, it is best to discontinue the drug for two or more days at intervals, and to resume its use with a smaller initial dose. By so doing the use of very large doses and strong solutions, which are not exactly safe to handle, will be avoided. Nitroglycerin, he thinks, has not met expectations as a remedy in conditions of persistent high tension, and he now uses it in such cases less frequently than formerly, endeavoring at first, at

least, to relieve by limiting the nitrogenous intake and maintaining free action of the skin and bowels. Aconite is often substituted for nitroglycerin in these cases with advantage.

Treatment of Hypertrophy of the Prostate by the X-rays.

At the last meeting of the Vienna Medical Society, D. Moszkowicz (*Lancet,* May 20, 1905) showed several cases of enlargement of the prostate in which he had tried a new method of treatment. As the enlargement was due to the hypertrophy of the glandular tissue chiefly, and as this tissue was easily influenced by the *x*-rays, he directed the rays of a "soft" tube through the rectum toward the gland. Of three men who were shown, the first was sixty-six years old, and after three exposures, each lasting fifteen minutes, he was able to pass urine spontaneously. The second patient was seventy-seven years old, and his prostate was enormously enlarged and very hard. The same treatment was adopted, and now he can pass urine freely, but some of it is still retained. The third patient was completely cured. Two of them had severe hemorrhagic cystitis, and one had epididymitis after seventeen days. It was difficult to say whether these complications were the effects of the rays. As regards the technique a rectal speculum was used, and the surrounding parts were covered by lead. Moszkowicz intends in the future to use bromide of radium, which may be applied by means of an ordinary catheter, and can be directed exactly toward that part of the gland which compresses the urethra.

Lavage of the Renal Pelves in the Treatment of Bright's Disease.

The detailed histories of six cases are given by W. Aryes (*Medical News,* July 1, 1905), who also describes the methods he prefers. His conclusions are thus stated: (1) Not enough importance has been given to the probability that a large percentage of cases of chronic nephritis, in which no discoverable cause for the inflammation can be found, are really due to extension of inflammation from the renal pelves. (2) Lavage of the renal pelves is only applicable in selected cases of nephritis. (3) Lavage of the renal pelves will certainly cure a beginning nephritis that is due to extension of inflammation from the renal

pelves. (4) Lavage of the renal pelves in subchronic and chronic parenchymatous nephritis will check the disease and markedly improve the general condition of the patient, in those cases that have not reached the stage known as cirrhotic kidney. (5) Lavage of the renal pelves for nephritis by one who is not properly trained in the technique cannot possibly improve the condition of the kidney, and may do harm.

Treatment of Hay-fever.

A. Denken (*Münchener med. Wochenschrift*, No. 19, 1905) reports the cure of eight cases of hay-fever by massaging the nasal mucosa. By this method he has cured an already existing attack and prevented its recurrence in the following season. He first applies a solution of 1 part of cocaine, .01 part of adrenalin, and 10 parts of water to the sensitive mucosa, and then massages it with a cotton-covered sound dipped in antiseptic oil. He commences with a slow light stroking of the inferior turbinate, gradually increasing the rapidity and pressure, and passing to the middle and superior turbinate, returning over to the mucosa of the septum. The massage is kept up for two to three minutes and repeated every day.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
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Induction of Labor, Especially as Regards the Fate of the Children.

H. Lorey (*British Gynecological Journal*, Feb., 1905), alluding to the disfavor in which the induction of labor has been held, quotes the authority of Kroenig, who in his work on the "Contracted Pelvis," published in 1900, declares that this proceeding does not offer a better prognosis for the children than expectant treatment, even with the possibility that at term symphyseotomy or Cæsarian section might be declined and perforation be obligatory; moreover, that this is especially so in the degrees of contraction in which induction has principally to be considered.

In view of this condemnation Lorey has analyzed 133 cases from the Klinik at Halle, till lately under the direction of Pro-

fessor Bumm, and finds that in 100 labors, in 82 women with pelves exhibiting a contraction varying from 6.5 to 10.25 centimeters, the induction of labor resulted in the delivery of 74 children alive and 26 stillborn; during the ten days after birth 13 other children died, giving a total mortality of 39 per cent. Now these 82 women had had in previous labors 207 children, of which 196 had been born spontaneously, or at all events without either the induction of labor or Cæsarian section, and the immediate mortality of these 196 children exceeded 78 per cent. In the contractions of the pelvis, therefore, the results of the premature induction of labor as regards the children are twice as good as spontaneous delivery or extraction by forceps, or after version.

Nevertheless, induced labor does not begin to give satisfactory results unless the contraction of the pelvis is as low as 8 centimeters and the pregnancy has reached the thirty-sixth week at the least.

As regards the further fate of the children, 40 of the 56 of whom Lorey was able to get a report lived more than a year—a proportion of 71.4 per cent, or 73.2 per cent if one abstracts one case of infanticide. Indeed, deducting 5 illegitimate children, including the one killed by its mother, we find that of 51 children delivered prematurely and discharged alive from hospital only 11 died in their first year, a mortality of 21.5 per cent. Now the general mortality of children in their first year in Halle is 24 per cent.

The length of gestation is most important. Of the infants born before the thirty-fourth week not one lived for a year. The induction of labor before the thirty-fifth week may be deemed equivalent to perforation, and is only to be performed in the interests of the mother.

Cæsarian Section for Placenta Previa.

R. W. Holmes (*Journal of the American Medical Association*, May 20, 1905), as the result of an extensive statistical study of the comparative mortality of Cæsarian section and of placenta previa treated obstetrically, decides that Cæsarian section for placenta previa lowers the fetal mortality 30 per cent, but increases the maternal death-rate nearly threefold. Approximately the mother is sacrificed for the uncertain chance of life of the child. He questions the statistics somewhat, holding that some maternal mortality is unrepresented. A rigid os is one of the rarest complications of placenta previa; most cases so diag-

nosed are, he holds, wrongly considered. A true cicatricial cervix or rigid cervices of old primiparæ may afford an indication for Cæsarian section in placenta previa. Pelvic contractions are indications for Cæsarian section in the presence of previal hemorrhage, the deformity, not the previa, being the determining indication. The earlier the interruption of gestation, other things being equal, the more may the pelvic deformity be disregarded. Usually the condition is not recognized until hemorrhages appear. Cæsarian section for placenta previa will never have so low a maternal mortality as when done for a pelvic indication. Repeated examinations for diagnostic purposes must be made, and the temporary use of a vaginal tampon may be required until the patient can be transferred to a hospital or due preparations be made for operation. The acute anemia and the anatomic conditions postpartum add special danger to the operation. Suitable cases for Cæsarian section usually call for operation independent of the fetal condition, as the primary object is to save the life of the mother. It should only be a last resort, and if an abdominal operation is forced on the obstetrician he should remove the uterus as a prophylactic against hemorrhage and infection. The profession should await the adjudication of the field for Cæsarian section in placenta previa by obstetric authorities before resorting to it.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

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Orbital Sarcoma.

G. O. Ring (*New York Medical Journal*, June 10, 1905) says the difficulty in accurate diagnosis under certain conditions entirely justifies an exploratory incision with removal of a section of growth for microscopic study, said exploration likewise serving to determine the ramification of the tumor.

The brilliant results achieved by a number of accurate observers in the field of Roentgen ray therapy justify the immediate tentative application of the method before any radical operation is attempted. If unsuccessful in removal of the growth, the virulence of the latter will probably be decreased and the dangers of metastasis lessened (Leonard).

If the sarcoma is encapsulated operative intervention without orbital evisceration promises a successful outcome.

In view of the almost constant recurrences after orbital evisceration, the removal of the growth itself is regarded as sufficient unless the periosteum or bony wall is involved.

The encouraging results reported from the cataphoric sterilization of malignant growths in other parts of the body seem to warrant the utilization of this method in the orbit, due care being exercised as to strength of current used (Massey).

Future experience must determine whether better results will be achieved by using this method for the original growth or reserving it for recurrence *in loco*.

If operation has been performed and the growth has recurred, we have at command these two valuable methods of attack.

Importance of Early Recognition of Suppurative Ear Disease.

A. G. Bryant (*Medical Record*, May 13, 1905) in a long article on this subject contributes a very full discussion of middle ear disease, its etiology, symptomatology, and sequelæ, together with the diagnosis and treatment of the various phases of the malady. The disease is so common an accompaniment of the ordinary diseases of childhood that the practitioner should be as familiar with the ear speculum and probe as with the stethoscope, and it should be remembered that it is often the objective examination that gives the first clue to the existence of middle-ear trouble in small children. The following plan of treatment is outlined for early cases: Douche the ear gently every two hours with one or two quarts of a sterile normal salt solution as warm as can be borne, to be followed by a hot water bag or a hot salt bag. Give one grain of calomel in 1-10 grain doses and repeat as necessary. Use cleansing and astringent washes for the throat and cleansing sprays for the nose. Caution against too forcible blowing of the nose or blowing both sides of the nose at once. Have the patient remain in bed until the acute symptoms have abated. The bromides or phenacetine may be given, but with caution and only for a few days. Avoid all opiates as they mask the symptoms. Early paracentesis is urged, especially in influenza cases, and the technique of the operation and the after-treatment are described. Mastoid involvement and the treatmnt of chronic suppuration are also discussed.

THE MEDICAL AGE

Vol. XXIII. DETROIT, AUGUST 25, 1905. No. 16.

ORIGINAL CONTRIBUTIONS.

SOUNDS OF THE BODY: HOW OBSERVED, AND IMPORTANCE OF DIAGNOSIS.

BY WALTER E. SCOTT, M.D., ADEL, IOWA.

In a recent editorial in the *Journal of the American Medical Association* I find the following: "The busy man is apt to think that he should be exempt from the obligation of trying to extend the bounds of medical knowledge. His occupation, he may claim, is a practical application of the discoveries of others. Active practice absorbs so much energy and time as to leave none for anything beyond his patients and their immediate needs, and certainly no opportunity for original work. It used to be the excuse of the medical college professor that he had to devote so much time to teaching and practice that he could not be expected to do any investigating. Now it is recognized that only he can teach well who is himself doing original work.

"Only the physician who so carefully examines his cases that he sometimes makes observations not to be found in the textbooks is doing his patients justice and keeping himself up to date. It is the men who thus impress their personality on medicine that receive the highest rewards in the profession, the confidence of their fellow practitioners, and frequently calls in consultation.

"Most of the great advances in medicine have come, not from ambitious theorists, but from the carefully recorded observations of the general practitioner. Morgagni, from Virchow, greeted as the father of Modern Pathology, was first of all a clinical observer, a careful student of the cases that came under his observation. His pathologic studies were always directed to the better understanding of his clinical cases, and that is what makes *his*

great work of such practical value. Auenbrugger, the discoverer of percussion in the investigation of thoracic disease, was a simple practitioner of medicine all his life. While Auenbrugger was doing his great work in Austria, Jenner was preparing for his in England. Jenner was just a country practitioner, but in spite of all the 'laissez aller' that term is supposed to imply, he was one of the keenest of observers. When he told the famous John Hunter of the popular belief in Gloucestershire that cowpox protected against smallpox, and that the subject seemed worth thinking about, Hunter blurted out, 'Don't think, investigate.'"

With this apology we come to our subject, "Sounds of the Body," etc.

Ordinarily in health man is not conscious of many sounds occurring in his own body. A healthy man *ordinarily* does not hear his own heart-beats or respiration, or the movements of his intestines, or any other sounds ordinarily produced by the life processes. It seems to be an intended plan of nature that the great number and variety of sounds produced in our bodies are not carried to our hearing apparatus nor cognizance taken of them by the brain; in other words, the processes of life and movements within the body are almost noiseless to the individual himself.

It is only after careful consideration of the subject that the individual will credit the fact of the extent and variety of the sounds produced within his own body by the various movements and processes of life, and which *ordinarily* do not reach the hearing center. The vibrations occurring in his body that *do* reach his middle ear mostly escape through the external auditory canal and are lost, but closing the external auditory canals by plugs of rubber or other suitable material confines and reflects these vibrations, and he now begins to hear and take cognizance of many sounds not usually heard—*e.g.*, those produced by the movements of the tongue and the act of swallowing, air passing through the nasopharyngeal space, also the heart sounds and those of respiration surge prominently into consciousness, while the friction of the teeth against each other becomes a very distressing noise.

Impaction of cerumen in both external auditory meati gives rise to the same phenomena, and most of us are no doubt familiar with the almost insane condition, at times, of patients suffering with this disorder; being overwhelmed with the confusion of noises reaching the brain. A similar but exaggerated condition may be produced by plugging the ears completely and attempting

to eat a meal, in which case the sounds become almost unbearable.

"In health the air in the middle ear is in direct contact with the external atmosphere through the Eustachian tube when it is open, but it is usually closed, except during the act of swallowing; but the normal healthy tympanic membrane is no barrier to the escape of vibrations into the external air, which occur in the middle ear. The conditions are almost the same in this regard as if no membrane existed and the middle ear communicated directly with the external air. In disease however, when the membrane is thickened and tied down by bands of adhesion, and especially if the Eustachian tube is permanently closed, the middle ear becomes a resonance chamber for sounds produced in the body, and from which the individual cannot escape. One victim put a music box under his pillow to avoid the noises which kept him awake.

"As physicians and surgeons, however, it is by mediate or immediate auscultation that the various sounds of the body both in health and disease are observed—mediate as in the use of the stethoscope, and immediate as in the application of the ear.

"By auscultating the body we hear the *great variety of sounds* produced in the chest by respiration and the heart's action, both in health and disease; the movements of the stomach and intestines, the splashing of fluids, friction sounds, etc., etc.; but in addition to these we may hear an almost omnipresent sound over the greater extent of the body, viz., *the sound produced by muscular contraction.* The principal object of this paper is to call attention to this particular sound, known as the 'muscle tone' or 'muscular murmur,' its recognition, and its importance in diagnosis.

"Whenever a muscle contracts naturally in the body, the contraction is accompanied by vibrations occurring 19 5-10 times per second. The tone so produced cannot be heard by most persons; but what is actually heard is the first overtone corresponding to 36 to 40 vibrations per second.

"The tone given by an artificially stimulated muscle corresponds to the number of stimuli received per second, showing that there is a vibration of the muscle for each stimulus. In a single twitch or spasm there is but a single vibration of the muscle and no sound is produced, and as the muscles contracting naturally in the body *do* give a sound, they must be in a condition of vibration due to a series of stimuli—in other words, they

are in a condition of tetanic contraction." (Reference Handbook of Medical Science.)

When a muscle is stimulated by induction shocks the tone varies with the number of shocks. In the voluntary muscles of man, the muscle tone is always the same tone, and therefore caused by the same number of stimuli, regardless of the thickness or the length of the muscles—in other words, a similarity of tone occurs throughout. This being true, when we learn to recognize it we need never be misled by its presence; and the part it plays in the sounds heard during auscultation can be readily appreciated. Applying the ear or the stethoscope over the muscle of an extremity while it is in a state of rest does not give rise to any sound whatever, but bring the muscle into a state of contraction while the ear or instrument remains in position, and a roaring sound is at once heard, varying in intensity depending upon the muscle examined.

During May and June of 1898 I conducted some experiments with a rubber bulb attached to a rubber tube, the tube having an ear-piece to apply to the ear. I found that a roaring sound was present whenever the finger or hand was held with some pressure against the bulb or tube. I found that this roaring sound was the same as that produced by closing the external auditory canal tightly by the pressure of the finger or the palm of the hand.

I had often noticed, as no doubt every one has, the roaring produced by closing the ear with the finger, and I sought now by experiment to determine its cause. I had read that this phenomenon was caused by the circulation of the blood; also that it was the sound as that found in a shell applied to the ear. I found that the roaring in the bulb was not present when my hand was laid passively on it, and held in close contact by a book or other weight laid on my hand. I found also, when I laid my head on my hand, palm against the ear, and allowed simply the force of gravity to hold the weight of my head against my hand, that the roaring sound was absent. I found also that closing the ear with a plug of wood or hard rubber did not produce the noise referred to, and closing both ears tightly with plugs did not interfere with the hearing to the extent that I expected it would, and the effect of this latter procedure is altogether different from that produced by closing the ears by the pressure of the fingers or the hand, in which case the roaring sound interferes with all other sounds.

The fact proven that the roaring was only present when the

hands or fingers were held in contact with the ear by the force of muscular contraction, and in such a way as to close it air-tight, led me to believe that this roaring sound was produced by the contraction of muscular tissue occurring rapidly enough to cause a tone, and that this sound was conveyed through the bones of the arm, hand, and fingers to the column of air lying between the tympanic membrane and the finger or hand closing the external auditory canal.

In a similar way by the contact of fingers and thumb is produced the roaring sound so omnipresent in the ordinary stethoscope (that the roaring in the stethoscope is caused by the muscle tone, conveyed by the contact of the fingers and thumb in applying the instrument, was discovered by the writer in May, 1898, and recorded in the *Austin Flint Medical Journal*).

As muscular tissue constitutes 40 to 45 per cent of the entire body weight, and as the contraction of muscular tissue always produces a muscle tone, and as the muscle tone may be conveyed by the bones to which the muscles attach to distant parts, the almost universal presence of this sound during auscultation may well be imagined, and the elimination of it becomes very important. There are several ways by which it may reach the hearing apparatus of the observer, which it will be well to consider in order to know how best to eliminate it: first, from the observer himself, by a drooping or awkward position of the head and body during immediate auscultation; second, by the contact of the fingers and thumb of the observer with the ordinary stethoscope in mediate auscultation; third, by a constrained position of the patient, *e.g.*, arms over the head, arms over the back of a chair, leaning position—in fact a contracted position of any of the muscles attached to the ribs; fourth, nervous and spasmodic patients who cannot relax their muscles.

Elimination of this troublesome sound may be secured as follows: First, the observer himself must be in an easy, comfortable position to prevent the sound of the contraction of the muscles of his own body being carried to his middle ear, reënforced by the closure of the auditory canals and carried to his brain. Second, the stethoscope should be applied without the contact of the fingers, or else a non-roaring instrument used. Third, the patient should have the muscles of the arms, neck, and chest relaxed. Fourth, nervous and spasmodic patients should be examined while resting in a horizontal position with the muscles relaxed.

The prevalence of this sound in the body, the type of which

is shown by closing the external auditory canal with the finger, makes its elimination one of the most important features in auscultating any part of the human body. If the body is resting in a horizontal position and all the muscles at rest, no muscle sounds will be observed, except those produced by the muscles used in respiration, and they may be eliminated, at least partially, by having the patient cease breathing for a few seconds at the end of respiration. In listening to the heart sounds this procedure is quite important, giving the most distinct sounds of the action of this organ.

While making these observations I was called in consultation by a fellow practitioner in a case of tetanus. On placing the stethoscope over the abdomen while the patient was resting in a horizontal position, a sound was conveyed to my ears resembling the rumbling of an approaching railroad train, and placing the stethoscope over the muscular tissues of the back and neck as well as the extremities gave rise to the same sound, but the sound was not prominent in the lower extremities.

I saw a horse a short time ago suffering from tetanus; placing the stethoscope against the animal a *very* pronounced muscle tone was observed, and applying it to a horse in the adjoining stall over the same localities did not elicit this sound.

The muscle sound in the horse seems to be induced by the same number of stimuli and vibrations as in man, but this has not been accurately determined.

It being true that the contraction of the muscles invariably produces this sound, the ease with which it may be observed makes it important also in the diagnosis of any affection in which the muscles are concerned. I believe that by this means we may observe the beginning of tetanus before it has manifested itself in any other way; and other diseases, such as meningitis, tetany, strychnine poisoning, muscular contractures, etc., may the more easily be diagnosed and differentiated by the aid of this muscle sign. Also by its absence muscular degeneration, paralysis, muscular deficiency and muscular atrophy, etc., may be better understood and more easily diagnosed.

My investigations lead me to conclude, also, that a large proportion of the vesicular respiratory murmur is due to the sound of muscular contraction of the respiratory muscles. When we remember the large number of muscles used in respiration, especially inspiration, and that the chest must necessarily vibrate from this cause, we surmise at once that this tone is heard during auscultation of the chest, and therefore is a prominent part of

the vesicular murmur. The word murmur alone causes us to suspect that this is true. When we have familiarized ourselves with the muscle tone or muscular murmur by applying the fingers to the ear or applying the stethoscope over a contracted muscle, we may auscultate the chest and recognize at once this sound as a part of the vesicular murmur. By having the patient stop at the half-way point in inspiration, or, perhaps better, at the end of inspiration, in which case the air in the lungs is stationary, the muscle sound *alone* is heard, and its part in the vesicular respiratory sound is readily appreciated.

No allusion to the muscle sound is found in any article I have read on this subject.

A year ago, at Saratoga, I listened with much interest to Dr. Hoover's paper on "The Origin of the Vesicular Respiratory Sound," but no mention was made by him as to the possibility of the muscle tone entering into the vesicular murmur, and the fact of the existence of a muscle tone was utterly ignored in his paper, as in all of the articles I have read treating of auscultation of the human body.

I quote the following from Dr. Hoover's paper: "Vesicular respiration gives a confused mingling of sounds which suggest a multiplicity of point of origin. The expiratory sound is much shorter in duration than in bronchial breathing. However remote and faint bronchial breathing may be, the duration of the expiratory sound remains the same, whereas in vesicular breathing the expiratory sound is relatively short, whatever may be its intensity or proximity."

Dr. Hoover relates a case which he says offers absolute proof of vesicular breathing having an origin different from bronchial breathing. The case was that of an old man suffering from hiccough for four to six hours each day for fourteen days, when he died. The glottis being closed and a violent inspiratory effort with contraction of the diaphragm eliminated entirely bronchial breathing, and yet the vesicular murmur was present over apex as well as base of the lungs, and the duration of the sound during relaxation of the diaphragm sustained the same relative duration to the sound during phrenic contraction which the expiratory sound sustains to the inspiratory sound during normal respiration. He says: "The observation offers absolute proof of the existence of a true vesicular respiratory sound." He further says: "Whether the sound is due to the disturbance of equilibrium of the lung tissue or to the motion of the contained air, or both, is not determined, and I see no possible method of

differentiating between these two factors." Again: "All the muscles employed in inspiration were brought violently into action. The volume of the thorax was increased with each spasm of the respiratory muscle by rarefying the air contained in the respiratory tract, and still the typical murmur of vesicular breathing was audible."

While relating this he makes no mention whatever of the muscle sound. The muscle sound will explain every point mentioned in Dr. Hoover's paper, and undoubtedly is the correct interpretation of it. The violence of the respiratory effort and the prominence of the vesicular sound without ingress or egress of air, the short duration of the expiratory vesicular breathing as compared with the inspiratory sound, are easily explained on this ground as follows: In inspiration muscular action is very marked. The diaphragm and other muscles of respiration enlarge the thorax against atmospheric pressure by raising the weight of the ribs, sternum, muscles, etc., and compressing the abdominal contents, thereby expanding the lungs; while in expiration the elasticity of the ribs, sternum, muscles, and lungs, with return of the diaphragm to its normal condition, does not require any special muscular action. (It is only in forced expiration that the muscles, especially of the abdomen, are brought prominently into play, in which case the vesicular murmur is somewhat increased.) Foster says "expiration is elastic reaction." For the above reasons the muscle tone of expiration is very slight, corresponding with the short vesicular murmur, while in inspiration muscular action is *very* prominent, corresponding to the long vesicular murmur in inspiration. Ingress and egress of air alone cannot account for this variation in the vesicular murmur in the two acts. I agree with Dr. Hoover in that a considerable portion of the vesicular murmur has a different origin from bronchial breathing, but the cause I attribute to the sound of muscular contraction.

The reason why the sound produced by muscular contraction has not been more generally recognized is on account of the humming or roaring which is always present when the ordinary stethoscope is applied by the contact of the fingers and thumbs, the muscle tone being conveyed in this way to the column of air within the instrument and thence to the ear; and because of this fact the presence or absence of this tone in the body under examination could not be ascertained.

This difficulty may be overcome in the following manner: First, by applying the stethoscope without the contact of the

fingers, simply suspending it from the ears; second, applying it by the aid of a belt or other device to hold it in position; third, by using the old-fashioned monauralscope; fourth, by using a non-roaring stethoscope in which springs and non-conducting materials intervene between the fingers and the column of air within the instrument.

The muscular murmur plays a part also in certain tests of the hearing, as, for example, holding one ear closed with the finger while testing the other with a watch or tuning-fork. The muscle tone may be eliminated in this test by using an ear plug instead of the finger. This applies to Webber's test, Bing's test, and the speech test. The following experiment is explanatory of this point: Close both ears tightly with soft rubber plugs, and observe the distance at which the ticking of an ordinary alarm clock may be heard, holding it in front of the observer. Now remove the plugs and close the ears with the first finger of each hand and note how much shorter the distance at which the ticking may be heard. The distance with the plugs is four or five times greater than that with the fingers.

It appears from the above that we do not hear altogether with our ears (at least through the external auditory canal), for when they are closed completely we are still able to hear sounds produced in the air, and ordinary conversation may be carried on in a quite satisfactory manner with the ears so stoppered; even when the mouth and nose are held tightly closed in this experiment the result is the same.

The ticking of the clock, as mentioned above, may be heard at a distance of two or three feet when both ears are tightly closed by plugs and the nose and mouth held tightly shut. It is said that fish hear by bone conduction alone.

One more point and I will close. A soft-rubber tube from the ear of one person to that of another permits either to hear the sound of a vibrating tuning-fork placed on the head of the other, on account of the vibrations which are set up in the middle ear being carried through the column of air lying between the ear drums of the two individuals. If the conducting apparatus is impaired by disease, the sound conveyed from the diseased ear to the ear of the observer is feebler than that from the normal ear.

When I observed this latter fact I constructed a binaural auscultation tube to be used as a test for the condition of the conducting apparatus of the ear, as follows: A soft-rubber tube with a hard-rubber ear-piece leads from each ear of the patient,

joining a single tube by means of a hard-rubber Y-piece, the single tube leading to one ear of the observer and a hard-rubber ear tube attached. Placing the vibrating tuning-fork on the head of the patient while auscultating in the manner stated above, with the binaural auscultation tube, and alternately closing the tubes leading from the patient's ears, the feebleness of the sound from the diseased ear is easily recognized, and corresponds with the degree of impairment of the conducting apparatus. Again, applying the tuning-fork to the observer's head, the sound is heard louder by the normal ear of the patient.

SURGICAL ACCIDENTS.

BY Q. W. HUNTER, M.D., LOUISVILLE, KENTUCKY.

Perhaps a more fitting superscription to this contribution to the literature of surgical accidents would be "Surgical Mistakes," as it would appear that with the exercise of requisite precaution all the mishaps might have been obviated; at least, all clearly come under the classification of preventable operative contingencies.

In considering the question of surgical accidents the writer is not unmindful of the fact that the instances recorded in medical literature represent but a small percentage of the mishaps which really occur, the operator not being so eager to report his mistakes and failures as to exploit his apparent successes. As a matter of fact only semioccasionally does one encounter a devotee of any profession sufficiently honest and courageous to acknowledge his faults and record his errors with the same degree of truth and precision as he extols his apparent virtues.

It is a surgical axiom that oftentimes much more may be learned from an honest confession of errors and failures than from an elaborate dissertation upon successful issues. This is especially applicable to surgical accidents, as by reporting and discussing them means may be devised for their prevention in future instances; hence the incalculable importance to humanity of accurately recording all such contingencies in medical literature, although it may be a source of temporary humiliation to the operator.

Dr. Coe in 1897 remarked that it was safe to say only a small proportion of these cases (surgical accidents) were reported, as it was natural to seek to conceal errors and failures, forgetting that these would be more valuable contributions to medical liter-

ature than long series of successes; adding that if we could learn from the mistakes of others such experience was less costly than when gained by our own mishaps.

Wilson in 1884 collected thirty cases (reported and unreported) where foreign bodies had been accidentally left in the abdominal cavity after laparotomies, and said that from the lack of autopsies the unknown were much larger than the known cases never coming to light. At the time of Wilson's report Coe added five cases, operated upon by different surgeons, all the patients dying of diffuse septic peritonitis, autopsies revealing the presence of sponges among the intestines. So far as the writer can ascertain Wilson's collection of cases (1884) were the first of the kind reported in this country.

Death not infrequently supervenes from obscure causes following abdominal operations, generally being ascribed to post anesthetic effects, sepsis, peritonitis, etc., when autopsy, were it permitted, would undoubtedly reveal that the operator, his assistant, or the nurse had left a foreign body in the cavity—dissolution being clearly traceable to a preventable accident.

In justice to the surgeon it must be remembered that although the vast majority of operative procedures are deliberately planned and systematically executed (undertaken), there are numerous occasions where the most carefully devised plans require almost instantaneous revision, testing to the utmost the coolness, clearness, and resourcefulness of the surgeon (Schachmer). It is reasonable to assume, therefore, that so long as surgery remains an art, and so long as mortal man remains fallible, a certain percentage of deaths following surgical operations will be directly or indirectly traceable to accidents; the accurate proportion, however, can never be determined until autopsies are more generally permitted.

The prevailing attitude of the laity is decidedly averse to post-mortem investigation, the position being maintained that the patent having been operated upon ("cut") is sufficient, and if death perchance result further mutilation of the body is strenuously opposed if not strictly forbidden; thus humanity and science are denied opportunity of acquiring information which might be invaluable to both.

There are few operators of experience who have not made the error of leaving a foreign body in the abdominal cavity after celiotomy, although for reasons already intimated such accidents may not have been made known. Even the eminent surgeon Sir Spencer Wells on three occasions left foreign bodies in the abdom-

inal cavity—twice hemostatic forceps, and once a sponge. The great Lawson Tait also experienced a similar accident.

Schachner, of Louisville, in 1901,* collected 155 cases where foreign bodies had been accidentally left in the abdominal cavity, including Neugebauer's statistics embracing 109 cases, which appeared in the *Monatsschrift für Gebert. und Gynäkol.* The foreign bodies consisted of gauze and sea sponges, gauze pads and napkins, mull compresses, clamps, forceps, drainage-tubes, a seal ring, etc.

A brief analysis of these statistics may not be uninteresting: Of Neugebauer's 109 cases death resulted from the accident in 43; result unknown in 1. In 64, where a sponge, gauze, or mull compress was left in the cavity, the patients eventually recovered. Nature unaided successfully dealt with the complication in 26 cases, as follows: drainage tubes, 4; Richelot clamp, 1; artery clamps, 19; seal ring, 1; splinter of glass, 1. In 17 instances no mention is made of the character of the foreign body. In one case two artery clamps were left in the cavity, and in each of two others two gauze napkins were left. In the 19 cases where artery clamps were left the results were: in seven death ensued after the operation; in six death occurred immediately after the operation from sepsis; and in one case after a second operation several months after injury to artery. In three cases the artery clamp was discharged spontaneously per anum; one after nine months, one after ten months, one after four years. On one occasion the artery clamp by some unknown means entered the bladder. In two cases the artery clamp was removed from abdominal abscess, and in one the clamp was missed before closing the wound, and was searched for and found in the cul-de-sac of Douglas. In two instances the abdomen was reopened and missing clamps found. In four cases abdominal section was resorted to later at periods varying from three and a half months to a year and a half. In 21 cases a sponge was discovered in the cavity at the autopsy; in two the sponge was missed before closing the wound, was searched for, and found; in three the sutured abdomen was reopened to search for missing sponges; in three another abdominal section had to be performed, twice after twenty-four hours, once after four days; in one the sponge appeared at the orifice of an abdominal abscess after five months; in one sponge particles were gradually discharged from an abdominal fistula after more than a year and a half. In one case a secondary operation was necessary after four days to remove a

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drainage-tube; in one a drainage-tube was discharged from the vagina a long time after the operation, while the patient was dancing; in one a drainage-tube that had been lost during a paracentesis two years before was found in the pouch of Douglas at autopsy; in one a drainage-tube was discharged per anum after two weeks.

Schachner's 46 cases: Of 42 in which gauze pads and sponges were left in the cavity, 20 recovered; 12 died; result not known in 10. Of four in which the foreign body was a clamp or forceps, two recovered and two died. Gauze pads and sponges discovered at the autopsy six times; forceps once; in one case not only a gauze pad but a clamp attached to it were lost in the peritoneal cavity; in one death resulted from general peritonitis; in three it was not known positively that the foreign bodies caused death; in one instance death occurred after the removal of a gauze pad; secondary operation was resorted to for removal of the foreign bodies in 14 cases; unaided nature dealt with the complication in six cases.

Neugebauer's statistics (109 cases) included Wilson's collection (30 cases) published in 1884, and Schachner's Memoir embracing 155 cases includes both the collections of Neugebauer and Wilson.

In studying these statistics, especially those of Schachner, one is impressed with their incompleteness of detail—e.g., in 17 of Neugebauer's cases no mention is made of the nature of the foreign body. In 18 of Schachner's cases the name of the operator is either unknown, withheld, or not mentioned; of 12 deaths in Schachner's collection there were but six autopsies to verify the presence or absence of foreign bodies; in three instances it appears uncertain whether death resulted from the accident; in 10 cases the final outcome is unknown or not stated; one patient is said to have died of general peritonitis, but it does not appear certain that the disease owed its origin to presence of the foreign body. Of the 46 cases it is shown that 32 recovered; 14 died; in 14 secondary operations were performed; nature relieved six unaided; no mention is made of steps taken in 12.

It is recognized that most statistics are untrustworthy and unreliable, and medical statistics are not entitled to unqualified exception. Cases are incompletely and prematurely reported, final results not being stated; oftentimes in his desire for self-aggrandizement and to uphold and magnify his reputation and ability, the operator exploits only his successes, failing to report his failures and errors, thus falsifying his statistics and misleading the profession and the public.

To illustrate: Long series of cases of malignant disease have been reported where there was not a single failure to cure by surgical intervention; investigation and analysis of these cases prove that they were reported immediately after operation—*i.e.*, they were not followed after the patients left the operating table. Likewise long series of cases of inguinal herniæ have been reported cured by the Bassini operation with no relapses; these cases also were not followed beyond the operating table. And the same statement will apply to varicocele, gall-stones, appendicitis, and many other surgical diseases; moreover, it may be carried on into the domain of the general practitioner, who reports hundreds of cases of typhoid fever, pneumonia, puerperal eclampsia, etc., in an experience extending over a period of years, without a single death or failure to cure. Further comment seems unnecessary.

The medicolegal aspect of surgical accidents is not only of engaging interest, but of such importance that it should not be allowed to pass unobserved. The assumption is that the laity holds the surgeon responsible for the proper conduct of his operative procedure whatever may be its gravity or nature, including all minor details, and if an accident happens he alone receives censure therefor. The law requires those who hold themselves out to the public as physicians and surgeons to possess ordinary skill in their profession; it requires of the surgeon that he shall possess a reasonable degree of skill and learning; that he will use reasonable and ordinary care and diligence in the treatment of cases committed to his charge; that in all cases where there is room for doubt he will use his best judgment. The law further requires that those who hold themselves out to the public as specialists in any of the various branches of medicine and surgery shall possess a greater degree of skill and learning than is expected or demanded of ordinary physicians.

In several instances damage suits have been instituted against surgeons because of foreign bodies having been left in the abdominal cavity, but so far as the writer is able to ascertain the verdict in each has been acquittal for the defendant. Being unfamiliar with the minutiæ of these cases the writer can express no opinion regarding the correctness of the legal decisions, *de jure* or *de facto*, but he does wish to reiterate that with the exercise of requisite precaution the leaving of a foreign body, such as a sponge, gauze, forceps, etc., is a purely preventable accident and should never occur, the statements of others to the contrary notwithstanding.

Schachner* says: "If we study the subject fairly, and admitting that the accident (leaving foreign body in abdominal cavity) occurs more frequently than the reports casually observed would lead us to believe, it is after all remarkable that they are of such comparatively rare occurrence." It is believed there are many who will not concur in this statement unless it be qualified to apply only to cases in which for obvious reasons the operator is forced to undertake surgical intervention under the most adverse circumstances and where he is unable to control the details; or to emergency cases where he perforce operates either alone or at best with untrained assistants.

THE following is the result of the election of officers at the American Medical Association, at Portland, on July 13: President, Dr. William J. Mayo, of Rochester; first vice-president, Surgeon-general Walter Wyman, U. S. H. M. C., Washington, D. C.; second vice-president, Dr. A. J. MacKanzie, of Portland, Ore.; third vice-president, Dr. Eugene S. Talbot, of Chicago; fourth vice-president, Dr. Edwin D. Martin, of New Orleans; general secretary, Dr. Geo. H. Simmons, of Chicago; treasurer, Dr. Frank Billings, of Chicago; members of the board of directors, Dr. E. E. Montgomery of Pennsylvania, Dr. A. L. Wright of Iowa, and Dr. H. L. E. Johnson of the District of Columbia.

THE prohibitive character of the army transports is emphasized in some orders which were recently issued by General H. C. Corbin at Manila, who informs the war department that he has been obliged to send out explicit instructions on the subject. The officers and crew of and civilians employed on any inter-island transport are forbidden to have or keep any alcoholic drink in their rooms or any other place on board the transports. They are also forbidden to partake of any alcoholic drink on board the transports unless the same shall have been prescribed by the transport surgeon and issued to meet the particular prescription from the medical supplies on board said transport. It is made the duty of the transport quartermaster to see that this order is strictly enforced; and he is further required to report in writing to the chief quartermaster of the division any and every violation of this order, with names of offenders, that disciplinary measures may be at once applied.

**Loc. cit.*

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE EFFECTS OF TOBACCO IN HEALTH AND DISEASE.

Tobacco, which was given to man for his enjoyment, has been, like all things of service, much abused. The July issue of the *Practitioner* contains a number of articles on the effects of tobacco in health and disease which have been contributed by men of acknowledged authority. Sir Lauder Brunton holds that smoking in moderation is not injurious to grown-up people, but says there is a general consensus of opinion that it is distinctly harmful to young boys. He points out the stimulating effect of tobacco on mental activity. This activity is probably due to the local irritant action of smoke upon the mouth, causing reflex dilatation of the vessels which supply the brain. Weakness of vision, nervous tremor, and giddiness are frequently the result of tobacco smoking, but it is difficult to decide how far these are due to the direct action of the tobacco smoke upon the nervous system, and how far they are caused through alteration in the circulation.

Dr. Norman Dalton discusses the effects of the weed on the gastrointestinal tract. He says we know little about the influence of tobacco on the intestines. It is agreed that patients with diarrhea should not smoke. With our present knowledge of tobacco it should never be used as a remedy. Even as an enema it has frequently proved fatal. In regard to the nervous system Dr. James Taylor says it must be recognized that certain nervous systems are peculiarly susceptible to the influence of tobacco, and that symptoms evoked in certain persons by immoderate indulgence in that poison are of a most sure and even alarming character. The commonest symptoms are tremor, giddiness, coldness of the extremities, and sleeplessness.

Dr. W. G. Spencer notes the effects of tobacco on the mouth and tongue. It appears clinically as (1) an excoriation—an area

becomes painful or the corneous layers of the epidermis are raised, then detached, leaving a raw surface with red papillæ; (2) a superficial glossitis causes the papillæ to disappear, leaving a patch of thin glazed epidermis over inflammatory tissue; (3) leukoplakia; and (4) warty nodules with indurated bases. Cancer of the lip is often seen as the result of excessive use of the pipe.

From his experience and careful inquiry amongst a large number of singers and other professional voice users, Dr. H. Lambert Lack is led to believe that the results of tobacco smoke on the throat are greatly exaggerated. This writer says that tobacco exerts a mild stimulating effect upon those parts of the upper air-passages with which the smoke directly comes in contact. When the air-passages are otherwise healthy, these effects are slight or unnoticeable, and no harm results unless the patient is of tender years and smokes and inhales cigarettes excessively.

The ill effects of tobacco on the nose and throat are chiefly an indirect result, due to dyspepsia or systemic poisoning induced by smoking.

With regard to its effect upon the eyes Dr. H. Willoughby Lyle says that tobacco affects the eyes in two distinct ways: (1) Dense tobacco smoke will cause catarrhal conjunctivitis in those who suffer from irritable eyes, especially if the eyes are exposed to it in the foul atmosphere of a badly ventilated room; (2) nicotine slowly and continuously absorbed from the alimentary canal may produce tobacco amblyopia. Of the latter there is an acute and a chronic form. In treating this condition tobacco must be given up and alcohol taken only with the meals. Nutrition should be improved, exercise should be taken freely, and diuretics, diaphoretics, and cathartics used as occasion may demand. Strychnine should be administered in gradually increasing doses.

We may safely rely upon the opinions expressed as representing the best medical opinion of the day, and we can thank the editor of the *Practitioner* for his efforts in having discussed a subject over which opinions differ so much.

EDITORIAL NOTES.

The Tuberculosis Situation in Prisons.

The appalling number of convicts who fall victims to tuberculosis after their incarceration is a well known fact. Unfortunately prison authorities have not done as much as they might in

regard to the prevention of this affliction. Dr. S. A. Knapp, of New York, who is a well recognized authority on the subject of tuberculosis, has recently made an inspection of several of the large penal institutions of the country. In his paper which recently appeared in the *Medical Record* he makes the following suggestions: All prisoners detained in jails should be subjected to careful medical examination, and all tuberculous individuals be isolated. Having arrived at the penal institution, tuberculous prisoners should be assigned to the sort of labor best suited to their condition, and the temperature of the workrooms should be carefully regulated to prevent overheating, while proper dust consumers should also be installed. All prisoners should receive periodical medical examinations. Rules against expectoration should be strictly enforced, and the use of stationary and pocket cuspidors is advised. Tuberculous prisoners should always have separate cells, and all inmates should have a chance to exercise in the open air several times a day. Whenever possible, those predisposed to tuberculosis and those in the earlier stages of the disease should be assigned to agricultural work. The more advanced cases should be treated in special wards, and be required to wear mouth masks to prevent infection. The indiscriminate pardoning of far-advanced cases is to be deprecated, as their families are often too poor to provide for them, and they easily become sources of infection to others. Prisons should be constructed so that there is plenty of light, air, and ventilation, on soil that is dry and porous.

These suggestions coming from so high an authority deserve careful consideration by prison boards.

Tuberculosis Disseminated by Bread.

Almost every possible avenue of tuberculous infection would seem to be known, yet a speaker at the recent International Congress of Tuberculosis brought forward a new one. He showed that bread is capable of being a very potent agent in the spread of tuberculosis. When the various processes through which flour passes on its way to become bread are considered it is easy to understand that the successive manipulations which the dough undergoes can easily favor the introduction of the germs of tuberculosis. It is above all during the kneading process that the danger is most patent. The workman heaves up a large lump of dough and lets it fall, grunting as he does so. This heaving up

and throwing down again of the dough are necessary to introduce air into it. When it is considered that bakers' laborers are affected with tuberculosis to the proportion of some 70 per cent, it is easy to see what facilities there are for the entrance of the tubercle bacillus into the dough. Moreover, when the bread is baked it does not attain a temperature of over 100° C. in the middle of the loaf, and the slight proportion of time which elapses between the baking of the bread and that of its consumption is favorable to the dissemination of the bacillus of tuberculosis. Should further investigation prove this true, it would be advisable that bread sold to the public be kneaded by machinery.

The Fear of Cats.

A very interesting paper was recently published by Dr. Weir Mitchell in *American Medicine*, in which he enumerates a large class of persons who have a dread of cats. This fear is termed by the essayist as ailurophobia. He says that cat emanations may affect the nervous system through the nasal membrane, although unrecognized as odors. The writer by means of questions sent to a great many persons has been able to collect considerable data on the subject. From the answers he received he has indisputable evidence concerning a great many people in whom the presence of a cat causes a variety of symptoms, viz., fear, terror, disgust, horripilation, oppression of breathing, chilly sensations, nausea, etc. The removal of the cat in all cases would cause the symptoms to disappear, but would in most cases leave the sufferer in a nervous condition, which in some instances would persist for days. Dr. Mitchell offers no explanation for this unreasonable fear of cats. Can any one?

Infant Feeding.

The number of infants who come to an untimely end through errors in feeding is hard to compute. To do away with this cause of infant mortality the Illinois State Board of Health recently issued a circular on infant feeding. While issued for the benefit of the poor, the circular contains advice that any mother would do well to follow. So popular has this circular been that requests for it have been received from every State in the Union. The different State boards of health could do a great deal of good by following the example set by the Illinois board.

ITEMS AND NOTES.

THE next meeting of the American Medical Association will be held in Boston.

PROF. HERMANN NOTHNAGEL died at Vienna on July 7, at the age of sixty-five.

THE next international medical congress will be held in Lisbon April 19 to 26, 1906.

DR. ALBERT VANDER VEER, of Albany, has been elected president of the American Surgical Association.

THE governor of Illinois vetoed a bill that had been passed establishing a State board of examiners for nurses.

THE death-rate of New York for the week ending July 22 was twenty-eight in a thousand, said to be the highest since 1901.

BEGINNING September 6, 1905, the University of Kansas will give for the first time a full course leading to the degree of M.D.

SINCE the first of June there has been a marked increase in the number of cases of trachoma among the immigrants arriving at Ellis Island.

AN international exhibition of applied sciences and manufacturers is to be held in Milan in 1906 to celebrate the completion of the Simplon tunnel.

A SOCIETY formed of municipal engineers and hygienists of the French-speaking countries of Europe will be founded at a congress to be held in November, 1905, in Paris.

PROF. EMIL ZUCKERKANDL, who holds the chair of anatomy formerly occupied by the famous Hyrtl, has again been elected Dean of the Medical Faculty in Vienna for 1905-6.

THE Paris Académie des Sciences Morales et Politiques has awarded to M. Vallery-Radot the Corday prize for his life of his father-in-law, Louis Pasteur. The prize consists in an annuity of $50.

A COMMITTEE, of which Prof. Ed. Rosenthal of Jena is chairman, has been formed for the erection of a memorial to the late Prof. Ernst Abbe, whose improvements in the microscope have been of the greatest service to science.

A RUSSIAN paper states that the Russian physicians now prisoners in Japan have been appointed the medical attendants to the other Russian prisoners, and that they are to be paid by the Japanese government for their professional services.

IT is announced that the first American Tuberculosis Exhibition will be held in New York next November under the auspices of the National Association for the Study and Prevention of Tuberculosis, and of the Committee on the Prevention of Tuberculosis of the Charity Organization Society.

THE legislature of the State of California has passed a law making it a misdemeanor to own, to lease, to let, or to hire any room for a lodging or sleeping apartment that contains less than 500 cubic feet of air space "in the clear" for each occupant; it is also a misdemeanor to be an occupant of such apartment.

THE next annual meeting of the German Surgical Society will be held in the Langenbeckhaus, Berlin, April 18 to 21, 1906. The presiding officers will be Profs. W. Korte of Berlin and Kusten of Marburg; the secretaries, Drs. W. Korte of Berlin and Kummel of Hamburg; the treasurer, Prof. Kohler of Berlin.

THERE has just been started in Paris a Hospitals Clothing Association. As its title suggests the object of the society is to distribute clothing to patients who go out of the hospitals and have to look for work. The society appeals to its supporters for articles of clothing, either new or previously used, of any kind, and for money with which it may buy such articles.

AT a special graduation ceremony at Edinburgh University on June 22 the honorary degree of Doctor of Laws was conferred on William Stewart Halsted, surgeon-in-chief of the Johns Hopkins University of Baltimore; Cameron of Toronto, Shepherd of Montreal, and W. W. Keen of Philadelphia—all of whom were attending the celebration of the quarter-centenary of the Royal College of Surgeons.

A MOVEMENT has been set on foot by the medical practitioners of Vienna to restrict the sale and prescription of patent medicines and ready-made preparations. It is demanded that adver

tisements of such medicines should be circulated only through the medical press. It is well known that many people procure medicines after having heard from a friend that he used it with good effect, without the advice of a doctor. The movement has been responded to by the majority of the profession in a very favorable way.

It is reported by a contemporary that Robert Koch, who is at Iringa, German Southwest Africa, has found the origin of sleeping sickness in trypanosomes in the body of the tsetse fly. The discovery leads to the hope that means will be found to combat the disease, which in one form is particularly fatal to cattle. He expects to remain in Africa for some time. He found the breeding ground of the fly, and says that it can be rendered harmless through simple means. He further discovered that relapsing fever is transferred to men through a small sand tick.

The Marshall Hall Prize, given by the Royal Medical Society every five years for the most brilliant discovery in connection with the nervous system, has been awarded to Dr. Henry Head, fellow of the society, and physician to the London Hospital. In the course of his studies on the nature of the sensory impulse, Dr. Head had some of the nerves of his own arm divided and made observations during the period of regeneration. The information obtained is embodied in an address recently delivered by Dr. Head, and is said to mark a very distinct advance in our knowledge of the sensory nerves.

Baron Nathaniel De Rothschild, who died in Vienna on June 12, was a great benefactor of medical institutions. He added surgical wards for injured workmen to the Rothschild Hospital founded by his father, and endowed it with a gift of 2,000,000 kr. He also contributed generously to the ambulance service of Vienna, and some time ago presented his castle of Hinterleiten, in Lower Austria, to the military authorities as a canvalescent home for invalid officers, and also established a hospital for officers in Carlsbad. Baron N. de Rothschild, who was an invalid all his life, lived to the age of sixty-nine.

Miss Lillian Brandt (*Medical Record*) says that the negro death-rate from consumption, which before the Civil War was less than that of the whites, has increased with such rapidity that it is now about three and one-half times greater than the latter. The following figures show the death-rate from con-

sumption between the ages of fifteen and forty-four for every 100,000 persons in 1900: Negroes in United States, 584; Ireland, 428; Bohemia, 235; Scandinavia, 234; France, 221; Germany, 206; Scotland, 201; Canada, 200; United States, native born whites, 163; England, 151; Italy, 150; Russia, 131; Hungary, 113; Poland, 67.

The increase of ankylostomiasis amongst coal and iron miners in Germany and Italy has induced the Austrian Ministry of the Interior to direct its attention to the sanitary conditions of Austrian mines and tunnel works. Up to June 1, 6820 people employed in 512 different establishments were examined. Only 45 of these were found to be suffering from ankylostoma duodenale or tenia. It was shown that nearly all of them had been employed within the last three years in one or another of the infected places abroad. The majority of the cases were found amongst the laborers on the Transalpine railway line now in course of construction. They come mostly from Italy, are very filthy and unhygienic in their habits, and are a source of danger wherever they lodge.

At a recent session of the Therapeutical Association of Paris, Dr. Amat stated that he has observed for some time the good results of placing egg membrane upon the surface of wounds, and reports two new cases—that of a young girl suffering from a burn on her foot, and a man of forty, with a large ulcer on his leg. Both wounds were in process of healing and were covered with healthy granulations. He overspread them with six or eight pieces of the membrane of eggs, which was covered with tin-foil and fastened with dry antiseptic bandages. After four days the bandages and tin-foil were removed, and it was shown that the membrane of the egg had partly grown into the tissues and had caused the growing of a good skin. That the egg membrane had contributed much to the healing process was demonstrated in the further course of treatment. It seems, however, that the membrane does not always adhere. The process of cicatrization is not only hastened but the wound heals exceptionally well and leaves but few perceptible traces.—*Army and Navy Register.*

NEW PUBLICATIONS.

HANDBOOK OF ANATOMY.

The object of this little book is, as its title indicates, to furnish a concise though complete synopsis of human anatomy for the use of students and others. The author has endeavored by well selected woodcuts, typographical arrangement, and numerous tables to facilitate the acquisition of a subject as difficult as it is essential, and elegance of diction has therefore been sacrificed to conciseness and accuracy. Although particularly prepared for students, sufficient descriptive matter has been added to render it valuable to the busy practitioner, especially the sections on the viscera, special senses, vascular system, and surgical anatomy.

Handbook of Anatomy. Being a Complete Compend of Anatomy, Including the Anatomy of the Viscera, and Numerous Tables. By James K. Young, M.D., Professor of Orthopedic Surgery, Philadelphia Polyclinic; Clinical Professor of Orthopedic Surgery, Woman's Medical College of Pennsylvania; Instructor in Orthopedic Surgery, University of Pennsylvania; Fellow of the College of Physicians of Philadelphia; Fellow of the Philadelphia Academy of Surgery; Fellow of the American Orthopedic Association; Member of the American Medical Association, etc. Second Edition, Revised and Enlarged, with 171 Engravings, some in Colors. Crown octavo, 404 pages, extra flexible cloth, rounded corners, $1.50 net. F. A. Davis Co., Publishers, 1914 Cherry St., Philadelphia, Pa.

ORTHOPEDIC SURGERY.

In preparing this their third edition the authors found it necessary to rewrite a number of chapters. This was done in order to bring the work thoroughly up to date. The chapters treating of congenital dislocation of the hip, scoliosis, of traumatic and non-traumatic coxa-vara, and of tuberculous diseases of the joints, show the great advances made in our knowledge of these affections during the past few years. The volume is profusely illustrated, and one chapter is entirely devoted to the details of orthopedic apparatus. The work will be found of great value alike to the orthopedic specialist and the general practitioner.

Orthopedic Surgery. By Edward H. Bradford, Surgeon to Boston Children's Hospital, and Robert W. Lovett, Surgeon to the Infant's Hospital. Third Edition. William Wood & Co., New York.

SYLLABUS OF MATERIA MEDICA.

The second edition of this very useful little work will be welcomed by the profession. It is one of those helpful little manuals which fill a want with a fitness the value of which cannot be overestimated.

A Syllabus of Materia Medica. Compiled by Warren Coleman, M.D., Professor of Clinical Medicine and Instructor in Materia Medica and Therapeutics in Cornell University Medical College; Assistant Visiting Physician to Bellevue Hospital. Second Edition. New York, William Wood & Company, 1905.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Use of the Esophagoscope in a Case of Non-malignant Tumor of the Esophagus.

A. Westerman (*Journal of Laryngology*, June, 1905) gives the details of a female patient, aged fifty three, who for four years had difficulty in swallowing solids, and who in consequence had lost weight and become very anemic. On passing bougie No. 20 some resistance was felt about the level of the cricoid; this was easily overcome, the bougie passing without any further difficulty to the stomach. After removal of the bougie there was a good deal of hemorrhage.

Esophagoscopy was next done (without the use of cocaine); a tube of small bore was used, resistance being encountered at the same level as with the bougie. On looking through the tube, after carefully removing a good deal of fresh blood, one saw on the left wall of the esophagus close to the end of the tube a round, smooth, and shiny tumor about the size of a cherry.

The tube was gently pushed on 3 centimeters, when it was again checked, the growth itself projecting into the tube. From this it was concluded that the growth was probably a pedunculated fibroma. As the bleeding continued and the patient complained of pain, the tube was removed.

On again introducing the tube two days afterward much blood and clot was seen; on removing these the appearance presented was the same as at the previous examination. The onset of pain and hemorrhage made it advisable to withdraw the tube, and it was suggested to remove the tumor by snaring at the next examination. By the end of two weeks the pain had entirely gone, and a wider tube was used to allow the introduction of a snare. This time no difficulty was met with, and on examination the mucous membrane from the cricoid cartilage to the cardia showed no abnormality.

There was no sign of the tumor or of its base. The tube having been removed, the patient after some persuasion swallowed solid food without any difficulty. On examination two and a half months later the mucous membrane was quite healthy. There can be no doubt that this growth was benignant, and that the use of the esophagoscope favored if it did not cause the necrosis of the pedicle.

Gunshot Wounds of the Abdomen.

J. E. Cannaday (*Medical Record,* June 10, 1905) points out the difference in effect on the tissues between the old-style low velocity ball and the modern projectiles, which latter are less apt to be deflected in their course through the body, and produce neat, clean-cut perforations which are easily sutured and heal rapidly. Although the greatest risk of infection in abdominal wounds comes from perforation of the hollow viscera and the subsequent contamination of the peritoneum, there is danger from the projectile itself, for contrary to common belief the heat generated in firing does not in any sense destroy bacteria, and the missile easily becomes infected *en route* by contact with clothing, skin, etc. In these wounds occurring in civil life, when the wound of entrance can be shown to have penetrated the abdominal wall and the services of an experienced surgeon are promptly available, laparotomy indications are imperative as a rule, regardless of symptoms. In war time, however, when operative action often comes late and must be carried out under adverse conditions, it has been found that the conservatism of inactivity is the saner policy. The technique of such operations is described, and the author says that when the patient's condition will tolerate it, considerable attention should be devoted to a careful closure of the abdominal wall, which he accomplishes by the use of layers of interrupted sutures of silk.

The Bacillus Coli Communis as a Cause of Septicemia.

G. Morrhead (*The Practitioner,* June, 1905) says that the bacillus is known to cause septicemia in animals, and when isolated from the intestines in diarrhea it is much more toxic than when derived from the healthy alimentary canal. It has also been found to exert a much more toxic effect on ill-fed than on well-nourished animals. Cases of septicemia are cited in which the bacillus was found in the blood during life; cases of general sepsis are reported in which the bacillus was found throughout the body in pure cultures after death; infectious diseases occur in the lower animals under natural conditions, and are apparently caused by this bacillus. The power of the bacillus in modifying the course of or preparing the way for other forms of septicemia is shown by the following facts: (1) In animals it assumed very virulent properties in company with streptococci; (2) investigations with streptococci of the mouth showed that many

which were harmless when injected alone into animals became virulent when mixed with the colon bacillus; (3) a mixed infection produced with this bacillus and the diphtheria bacillus was much more poisonous than either organism separately. The author therefore concludes that septicemia due to this bacillus is probable, and certainly is not disproved. It may account for the inefficiency, in some cases, of antistreptococcic serum.

Important Points in the Technique of Perineal Prostatectomy.

The following rules are laid down by D. Ochsner (*International Journal of Surgery*, July, 1905): (1) The incision must thoroughly expose the prostate. The horseshoe incision does it more effectually than the unilateral or the median incision, though either of the latter will enable one to enucleate it with the finger or by morcellation. (2) Hemorrhage must be avoided as far as possible. This is best done by keeping in the mid-plane between the urethra and rectum in splitting the septum, grasping the branches of the internal pudic artery on either side before or just after they are cut, and clamping injured veins near the neck of the bladder. (3) The form of retractor used is unimportant so long as it is in a position where it can be kept under control. (4) The traumatism should be reduced to a minimum. (5) If the prostatic urethra is completely removed at any point the remaining upper and lower segments should be united by cat gut sutures through the anterior wall, the posterior wall being left open for drainage. (6) Good drainage is important, no matter how it is accomplished. (7) The duration of the operation should be as brief as possible, in order to minimize shock and the effects of the anesthetic upon the kidneys. The author thinks that by observing these rules the operation will gain in simplicity and lose in gravity.

Nephroptosis.

E. Harlan (*Lancet-Clinic*, July 22, 1905) says that dislocated kidney is of far more frequent occurrence than ordinarily supposed or diagnosed; that it should be carefully searched for in all cases complaining of abdominal symptoms; that it is a potent factor in the causation of necrosis; that it is the cause of many cases of obstinate indigestion; that it is a prime factor in the production of various bodily crises, the latter being the

result of toxic absorption from imperfect elimination and having their origin from either the stomach, intestines, kidneys, or liver; that it may be the result of any lesion, either local or general, which will vitiate the vitality of the peritoneum, thereby weakening that organ so that there is continued loss of peritoneal tone, and therefore a decrease in intra-abdominal resistance, tension, and support; that it produces ulcer of the stomach and duodenum; that it handicaps the activity of the cholecyst and obstructs the duct of the latter; that it produces typhlitis, perityphlitis, appendicitis, colitis, and localized or general peritoneal inflammations with adhesions; that it is a powerful factor in the production of a general loss of vitality; that obstinate constipation with the accompanying traumatism, produced by the violent peristalsis of drastic catharsis, is one of the chief causes of dislocated kidney; that any operative interference calculated to correct a dislocated kidney must be one which has for its primary object a reattachment of the peritoneum to the back, a shortening of peritoneal elongations, and a reëstablishment of the normal anatomical relations and positions of the abdominal viscera.

Burns, Before and After Death.

Reuter (*Wiener klin. Wochenschrift,* No. 23, 1905) from his observations concludes that burns of the first to the third degree cannot be distinguished as occurring before or after death. Blisters filled with serum may originate when heat is applied post mortem. To differentiate it is necessary to examine the lungs for inspired burnt particles.

MEDICINE.

Dangers of Illuminating Gas.

The perils of the domestic use of modern fuel and illuminating gas, now so generally used, are pointed out by H. Leffman (*Journal of the American Medical Association,* June 3, 1905). The coal gas formerly employed was comparatively non-toxic, and its characteristic odor was a danger warning, but the modern water gas that has so largely replaced it in common use, with its larger content of carbon monoxide and its comparative lack of odor, is far more dangerous. Accidents from this cause are far more frequent than formerly, and carbolic acid and illuminating gas have replaced at least in Philadelphia, he says, for

suicides and accidental poisonings, the arsenic and laudanum of the Civil War period. A sleeper can easily absorb a fatal amount of modern water gas without being aroused, and Leffman shows by a simple calculation how a very small percentage of carbon monoxide—less than ½ a grain, for example, to 100 cubic centimeters of blood—can render useless its hemoglobin. Gas stoves for cooking are used generally only in warm weather, when natural ventilation is good, and the danger from them is therefore lessened, but their burners are seldom furnished with a collar to regulate the air supply, and the combustion is therefore liable to be irregular and deleterious gases are given out. Gas "stoves" or heaters connected with the gas pipes by rubber tubing are objectionable on account of the liability of leakage, which is very great unless the very best tubing material is used. The stop-cock on the heater is especially objectionable, as it is the one most convenient to use, and when used the leakage can go on through the tube unchecked. The precautions recommended by Leffman are: Prevention of sale of inferior tubing; having no stop-cock on heaters unless they are connected to house mains by metal pipes with tight joints, and such construction as will prevent the rubber tube, even when of the best quality, remaining in free connection with the house main when the gas is not lighted. He would also have heaters constructed so as to give a larger radiator effect with a given gas consumption, and would have them placed only where the products of combustion can escape freely into the chimney. All burners on the Bunsen principle should be provided with collars to regulate the air supply, and purchasers should be instructed in their use. The commonly used illuminating mantles may be objectionable by interfering with combustion, especially when worn or displaced, and the flexible tube of the ordinary drop-light may be also a source of danger like that of the heater.

The Heart and Circulation in the Prognosis and Management of Pulmonary Tuberculosis.

S. Von Ruck (*Medical Record*, June 3, 1905) says that the relation of the heart and circulation to the course of chronic pulmonary tuberculosis is a factor both in the prognosis and management of such cases which is not generally accorded the attention and study which its importance demands. He suggests the analogy between the relation of the heart and circulation to the

local disease in acute pneumonia and in chronic pulmonary tuberculosis. According to his conception this relation differs chiefly in that the pulmonary obstruction develops rapidly in the one and more slowly in the other. By reason of this difference more can be done to conserve or increase the power of the heart in phthisis than is possible in acute pneumonia. It follows that close observation of the circulation in the course of phthisis is imperative, and that a weak second pulmonary sound is to be regarded as a danger-signal as in acute pneumonia. Overexercise is considered by the author as a potent factor in the production of tachycardia in consumptives, and he cites statistics from the Winyah Sanitarium showing that of sixty patients with disturbed heart action, in fifty-eight per cent overexercise had been a contributing factor in its causation. For the entire number of two hundred and sixty-one patients the figures show seventy-two and eight-tenths per cent of satisfactory results, whereas for those with tachycardia the figures show only thirty-four and one-tenth per cent. The restriction of exercise for consumptives with weak hearts is strongly urged, and the physical management of such patients, together with the regulation of diet, bathing, etc., is described in detail.

Infection of the Respiratory Tract with Influenza Bacilli and Other Organisms.

F. T. Lord (*Boston Medical and Surgical Journal,* May 18, 1905) draws the following conclusions: (1) Of 186 non-tubercular infections of the respiratory tract, observed clinically, for the most part bronchitis: (*a*) A mixed infection with various organisms has been found in 120 (64 per cent). (*b*) A comparatively pure infection with one group of organisms was found in 66 cases (36 per cent); of these pure infections those due to influenza bacilli comprise the largest group, with a smaller number of cases of pure infection with the pneumococcus, micrococcus catarrhalis, etc. (2) The pure infections, however, tend to become mixed as the case progresses, and the observer must then remain in doubt, in the presence in the sputum of two or more groups of organisms, as to the relative importance of any one of the infecting agents. (3) In the clinical picture, the symptoms of onset, the course and duration of the different pure infections, there seems to be nothing distinctive. They all tend to set up diffuse or local bronchitis, and a varying degree of bronchopneumonia.

The Bactericidal Action of Copper on Water Organisms.

N. Gildersleeve (*American Journal of the Medical Sciences*, May, 1905) has made an exhaustive study of this subject. He believes that dilute solutions of copper salts have a marked destructive action on many bacteria. Of these salts the sulphate is most active. This is probably due to the fact that it undergoes electrolytic dissociation more readily than the others. The amount of sulphate to be used in the water should be from one part in 250,000 to one part in 100,000, depending upon the character of the water. Colloidal copper will quickly destroy certain bacteria; should copper vessels or plates be used to destroy bacteria in water, they must be kept highly polished, or the bactericidal properties will be greatly reduced. The writer has been unable to find evidence of copper ingested in small quantities for long periods having a detrimental action on the health of an individual.

The Office of the Spleen.

E. T. Williams (*American Medicine*, June 3, 1905) fixed ox and hog spleens with sublimate salt and stained with hematoxylin-casein. He invariably found nucleated red blood-corpuscles, many of them with dividing nuclei. Arteago by the same method found them in the spleens of cats and dogs. Proper observations in human spleens are still wanting. The proof is almost complete that the spleen is the true organ for making red corpuscles. No doubt the marrow shares this function, but the marrow is a tissue, not an organ, deriving its property of making blood cells from the primitive mesoderm, of which it is a remnant. In warm-blooded animals it serves as a subsidiary spleen to supply the extra number of red blood-corpuscles required for the maintenance of their bodily heat and increased respiratory activity.

Further Remarks on Ischochymia and its Treatment.

Max Einhorn (*American Medicine*, June 3, 1905) describes some cases of benign ischochymia with intense peristaltic restlessness of the stomach which were cured by medical treatment. He also reports cases of ischochymia with a short history of disease which were benign in character. Two cases are described in which tumors of the pylorus and stomach were seen and pal-

pated during operations and left untouched—the patients, however, recovering entirely and remaining well for many years. The indications for medical and surgical treatment of ischochymia are given as follows: (1) Benign ischochymia requires first medical treatment; if this be unsuccessful—*i.e.*, after a longer period of treatment the fasting stomach, on a fluid diet, is not empty, but contains food remnants—an operation is advisable. (2) Surgical intervention is also indicated in benign ischochymia which has developed subsequent to a condition of continuous hypersecretion of gastric juice (preceded by hemorrhage or not). (3) Malignant ischochymia, or one of dubious nature, in which, however, a thickening of the pylorus is found, should also be treated surgically (gastroenterostomy, and if possible resection of the pylorus).

Responsibility in Mental Deformity.

T. Weir (*Medical Record,* May 27, 1905) discusses the attitude of lawmakers toward those mentally abnormal, as opposed to the insane. Since the physical basis of mind is demonstrable, it follows that mental deformity without disease is also possible, and it is wrong to treat the large class of kleptomaniacs, sexual perverts, etc., as insane. While it is true that these conditions may exist as part of the picture of true mental disease, they are not intrinsically so, and much may be done to relieve them by suitable educational measures in youth. The early recognition and treatment of the victims of such deformities would serve in many cases to transform them into useful citizens, while as the law stands hardly a day passes that the newspapers do not record the imprisonment either in a penitentiary or lunatic asylum of some one mentally deformed.

THERAPEUTICS.

Adrenalin in Asphyxia.

Joseph Winters (*Lancet,* June 3, 1905) contributed a paper on experiments which he had made on the action of extracts of the suprarenal gland on the mammalian heart when under the influence of an overdose of chloroform. He had found that, as Lowton and Sherrington had shown, the heart of a cat stopped beating when transfused by a solution of chloroform of strength

1½ per 1000. Dr. Winters isolated a cat's heart, and sent through the aortic valve and the coronary arteries the above mentioned solution. After five minutes a solution of sodium chloride made to traverse the same route caused no contractions, but when fifteen minutes were allowed to elapse and a solution of adrenalin of strength 1 in 2000 was injected the heart began to beat again. These experiments were conducted in several ways, and always with the same results. Cats and rabbits were then submerged in water for ten minutes, and artificial respiration being of no use he again injected a solution of adrenalin chloride into the heart, which now resumed its beating. It is to be hoped that the method will be improved so as to be capable of application to the human subject. Dr. Winters thinks that it will be useful not only in cases of drowning and asphyxia due to cardiac poisons, such as alcohol, chloral, and chloroform, but also in combating surgical shock.

Proper Diet in the Tropics.

H. W. Wiley (*Interstate Medical Journal,* July, 1905) says experience has shown that a change of climatic environment always necessitates a change in the character of the food. It is evident, without elucidation, that a less quantity of animal heat is needed in the tropics as compared with the greater quantity needed in the northern latitudes. As the production of heat is one of the chief functions of food, a corollary of the above proposition is that less food is required in the tropics than in temperate or northern latitudes. In other words, it may be said that if 3000 calories per day are required at a latitude of 45 degrees, 2500 per day would be sufficient at the equator.

It so happens that nature provided very abundantly in each zone the character of food which is best suited for those regions. In the colder zones fats and oils are provided, in the temperate zones cereals, meats, and vegetables, and in the tropics fruits of every description.

The bureau of chemistry has lately taken up a study of tropical fruits for the purpose of determining their food value. Their general deficiency is in protein. This is supplied by combining with the fruits a diet of nuts, which are usually rich in protein.

The principal starchy foods of the tropics are derived from the cassava or nearly allied plants. One great peculiarity, as has been noted, in the natural tropical food is the small quantity of

protein. The recent experiments of Chittenden seem to indicate that even in temperate zones very much larger quantities of protein are consumed than are necessary.

The natural tendency to repose which a tropical climate induces leads to the belief that there is not such a consumption of nitrogenous tissues produced by active physical exercise as in temperate and northern climates. It appears, therefore, that any large excess of protein in a tropical diet is contraindicated. Starch and sugar furnish the heat and energy of tropical diet. It is evident, therefore, that the ratio of carbohydrates and fat to the protein matter is very much larger in the tropics than in the temperate and northern regions. This may seem to be a contradiction of the previous statement that a tropical diet should contain a small quantity of heat-producing elements. This is not true in a mass sense (that is, as regards total quantity), and is not true in the proportional sense (that is, in relation to the amount of protein).

To summarize, a tropical diet should contain less calories than a diet in the temperate regions, and decidedly less protein.

Therapy of Formaldehyde.

P. Rosenberg (*Therapie der Gegenwart,* xlvi) believes, contrary to previous writers, that formaldehyde is not toxic. Of the many patients coming under his observation he has seen none who evidenced a toxic action; there were no casts or albumin in the urine and no blood changes. The toxic action of formaldehyde is due to its irritating qualities, and to avoid this it should be administered in some combination with some substance from which it is gradually split off. Rosenberg administered it in tablet form, each tablet containing one centigramme of formaldehyde in loose combination with milk-sugar and menthol, with a little ordinary sugar, pepsin, hydrochloric acid, and an aromatic vehicle. He has used it in six cases of diphtheria, seven cases of scarlet fever, two of erysipelas, one of pyemia, two of cystitis, and forty-five of tonsillitis, with good results.

Administration of Quinine.

A. Luca (*British Medical Journal,* July 1, 1905) has compared the administration of quinine by the mouth with hypodermic injections. In each case the quantity found in the blood

is very small relatively to the amount introduced into the body, and reaches its maximum after about an hour. The parasite of malaria is, however, susceptible to a minute proportion of the drug. When quinine is swallowed more is found in both the blood and urine than when it is injected under the skin. But experience has shown that the latter method of administration is more efficacious in malaria. This is due to the prolonged action of the drug in this case, as it passes continually though slowly from the tissue into which it has been injected to the blood.

Treatment of Benign Stenosis of the Pylorus.

In discussing the treatment of benign stenosis of the pylorus, H. L. Elsner (*Medical News*, July 22, 1905) says: "Such foods only to be taken as the dilated stomach with motor weakness can prepare to be forwarded beyond the point of resistance for further digestion. We should strive to prevent stagnation of foods with associated fermentation and the formation of organic acids; must empty the distended stomach as far as possible; prevent tetany and other nervous and distant symptoms; improve the general conditions; and treat associated symptoms as they rise by rational and natural methods, including the use of drugs, attempting by these to overcome or counteract the effect of secretory and motor anomalies."

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Convergent Strabismus.

W. Reber (*Pennsylvania Medical Journal*, July, 1905) says that esotropia is most likely to manifest itself before the end of the third year. It cannot yet be said whether any of the various reasons assigned by parents for the appearance of strabismus have aught whatever to do with it. Whooping-cough may be related to it. Heredity certainly plays a part in bestowing upon some children a congenitally deficient visual apparatus. The deviation will average about 30 degrees in a large number of cases; it is in no special way bound up with the degree of refractive error. The amblyopia of esotropia is presumably an

amblyopia ex anopsia, the present-day evidence being against Schweigger's theory of a congenital amblyopia. The degree of amblyopia increases with the length of time elapsing between the appearance and the time of treatment; especially is this true after the seventh year. Improvement may be expected in the amblyopic eye in fifty to sixty per cent of cases by properly adjusted glasses. This improvement varies from twenty per cent to ninefold betterment. While a defectively developed fusion apparatus has much to do with the genesis of esotropia, the influence of hypermetropia and its allied states seems almost as important as in the days of Donders. The part played by astigmatism is no little one. There seems to be no special relation between the degree of refractive error and the degree of deviation. Hypermetropic conditions of from one to four diopters are seen most commonly associated with estropia. A very high degree of hypermetropia does not necessarily exclude strabismus, as three cases in the series here presented were of 11 D. and over. If taken before the fifth year there seems no reason why the strabismus should not be cured by non-operative methods in seventy per cent of cases. This percentage will, in all probability, be increased to eighty per cent in the next ten years. The results of non-operative treatment in children, if adhered to with any persistence, are infinitely better than any "scissors" statistics thus far offered.

THE ETIOLOGY, DIAGNOSIS, AND TREATMENT OF MASTOIDITIS.

Wendell C. Phillips (*American Journal of Surgery*, July, 1905) says that patients suffering from acute otitis media should be confined to the bed during the acute inflammatory stage.

Recurrent suppurative otitis media is usually the result of adenoid vegetation in the vault of the pharynx, plus infection.

Chronic suppurative otitis media exists only as a result of incompetent or neglected treatment of the acute state.

Grippe infection produces a large percentage of the serious complications of middle-ear suppuration.

A chronic suppurative and necrotic process in the middle ear, because of its environment, calls for serious consideration.

The practitioners of medicine should acquire sufficient skill to make an intelligent examination of the drum membrane and sufficient familiarity with symptoms to diagnosticate the serious complications.

Well developed suppuration which has gone beyond the con-

fines of the mastoid antrum and involves the mastoid cells in general calls for external operative interference.

In the treatment of chronic suppurative otitis media local measures should be exhausted before considering radical operative interference. Failure to cure chronic suppurative cases, especially when evidences of necrosis are present, should be followed by some form of operation. The Stacke and Schwartze-Stacke operations, while they are rather serious in nature and require marked skill, offer the best hope of permanent cure.

In the consideration of both the mastoid operation and the radical operation for chronic suppurative otitis media, wise conservatism should guide the action of the surgeon.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Elimination of Indican by the Skin.

E. Gans (*Berliner klin. Wochenschrift,* No. 22, 1905) reviews the literature of four cases in which elimination of indican by the skin produced blue patches on it. In one case attention was called to the condition by blue stains on the bed linen. The patient was a woman, thirty-five years of age, who whilst taking a course of treatment at Carlsbad for constipation noticed that her linen was covered with small blue spots immediately after the menstrual period. A few fresh spots were noticed every day for months, but were most numerous after the menstrual period. During the appearance of the blue spots the urine contained .026 to .035 of indican per 1000. Chemical tests showed the blue spots to be indigo.

Treatment of Pityriasis Versicolor.

M. Gallois (*Lancet,* July 1, 1905) says that painting a very extensive eruption of pityriasis versicolor with tincture of iodine might cause symptoms of iodism. Oxygenated water, on the other hand, presented a variety of advantages for this purpose. In addition to being a mild microbicide and harmless in other respects, it was capable of dissolving albumin, so that it might be expected to cleanse the skin and promptly to destroy the microsporon. M. Gallois has treated several patients in this way, and always with success.

A Case of Menstrual Urticaria.

D. T. M. Miller (*Medical Record,* May 13, 1905) epitomizes the literature of this condition, and describes its occurrence in a girl of fifteen, who menstruates regularly and whose attacks of urticaria make their appearance seven or eight days before and cease two or three days previous to each period. Occasionally the urticaria persists until the flow begins, rarely during the first day or two of its course. During the intervals between the periods the patient is quite free from attacks, and she is perfectly healthy in other respects. The urticaria itself is of the ordinary type.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

The Meaning of Fever During Parturition.

K. Ihm (*British Gynecological Journal,* February, 1905) from a careful statistical study of 200 cases concludes the most important etiological factor in fever during labor is the rupture of the membranes too soon or in any early stage. The prognosis of such fever is little or no worse for primiparæ than for multiparæ. If delivery takes place spontaneously the prognosis is far better than if operative interference is required; under the former conditions multiparous women are more likely to have a feverish childbed. The protraction of labor after the waters have come away does not appear of dangerous import for the puerperium unless it extends beyond three days and the fever has come on very soon after the rupture of the membranes. The total length of the infection (from the observation of the fever, etc., to the end of the labor) is not sufficient basis for a definite prognosis; a very protracted infection is as likely as not to be followed by a fever-free puerperium. Nevertheless, cases in which the fever has come on only a short time (one or two hours) before delivery without any or only slight assistance offer as a rule a more favorable prognosis (*e.g.,* fever due to feeble contractions through the head is at the pelvic exit). The intensity of the infection is a better criterion. Tympany of the uterus is alarming, as is also the complication of placenta previa. Elevation of the temperature and rigors during labor do not in

themselves imperil the case. The condition of the pulse is important, and if it is persistently rapid the outlook is not favorable, especially if the temperature sinks or remains the same. Fever while the sac is unruptured seems to be less unfavorable. Therapeutically, prophylaxis is most important; the more rapid, simple, and natural the delivery in feverish labor the more reason is there to hope for a fever-free childbed.

The Treatment of Puerperal Fever.

Richard C. Moore (*Medical Herald,* July, 1905) says the prophylactic treatment of puerperal fever is by using all means at our disposal to approach as near surgical asepsis as possible, not only in regard to the patient and her surroundings, but also as to the obstetrician and nurse. In the putrid form thoroughly douche the uterine cavity with warm aseptic solution, giving special attention to the return flow. To do good the douche must be copious, and all fluid must readily come away. Better than the douche will be a thorough and careful curettement of the uterus, not with the sharp curette, but with one that will remove the detritus without abrading the sound mucous surface. Follow this by swabbing with carbolic acid and sterilized douche. If the infection be streptococcic, clean the genital tract with an antiseptic douche and administer the antistreptococcic serum. In both forms the infusion of normal salt solution will be in order. Eliminate through the different emunctory organs, and support with easily digested nourishment. Quinine in large doses, and alcohol as indications may require. Intravenous injections of formalin or bichloride of mercury may be given with a prospect of doing good, as they most undoubtedly have done when judiciously used.

The Surgical Treatment of Prolapsus Uteri.

Charles G. Cumston (*American Medicine,* May 20, 1905), after a brief reference to the various operations for the radical cure of complete prolapsus, describes in detail the operation of colpectomy, from which he has received excellent results in three cases during the past year. Cumston says that theoretically there is one objection to colpectomy, namely, that the uterus does not possess any outlet, and consequently one would be led to suppose that a hydrometrium must inevitably result; but practice has shown that this is not so. When a persistent secretion

from the uterine mucosa is feared, the operation is preceded by a thorough curettement; but in elderly women after the menopause the mucosa is atrophied and gives rise to little or no secretion, and then again a very marked atrophy of the uterus itself appears to take place after the operation. The second theoretic objection is that by pressure on the cicatrix the uterus might finally come down, but the ultimate results of colpectomy that have been published show that this is not the case. If necessary the operation can be carried out with Schleich's infiltration anesthesia. The only danger to avoid is opening the bladder or rectum.

On the Recognition of True Septicemia.

A. Kneise (*British Gynecological Journal,* February, 1905) reports the case of a woman, aged thirty-two, who was delivered spontaneously, but who had been examined during labor fourteen times by the midwife. She got up on the fourth day, but the same evening was feverish, and after three days more was brought to the hospital. Her lochia were not increased, nor stinking, but the contents of the uterus showed a pure culture of streptococci. The blood from a vein in the lower arm also gave a pure culture of streptococci. She died on the fourteenth day of childbed without ever having a rigor. Macroscopicaly, the autopsy was negative; microscopically, the uterine wall, heart, liver, and kidneys were pervaded by streptococci, yet there was no local reaction in any tissue. This sort of streptococcic infection has been variously called sepsis, septicemia, and streptococcemia, but Kneise would prefer following Bumm's example and apply to this form of wound infection (general infection distributed by the circulation) the name "true septicemia."

Foreign Bodies in the Uterus.

Knoof (*Centralbl. für Gynäkologie,* No. 18, 1905) gives the history of a case in which a hairpin had been introduced into the uterus four years after the menopause, but for six years no symptoms had resulted. Disturbances then manifested themselves suggesting cancer, but on the removal of the hairpin these subsided and conditions became normal. In another case a wad of rolled-up newspaper was expelled during childbirth, which must have been in the vagina or cervix some time before the onset of pregnancy.

THE MEDICAL AGE

VOL. XXIII. DETROIT, SEPTEMBER 10, 1905. No. 17.

ORIGINAL CONTRIBUTIONS.

HERNIOTOMY.

BY O. P. BARBER, M.D.,

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Herniotomy as performed in these days is a vastly different proposition than it was a few short years ago.

The only resort to operative procedure then was when we were forced to it by strangulation, and the results in such cases were prohibitive of attempts at radical cure through surgical means.

Thus patients who had recently ruptured themselves soon ascertained that the only comfort to be obtained from their physicians was the advice that they go to a druggist and have him fit a truss; therefore the public soon became educated to the point where they understood the helplessness of the profession, and passed by them directly to the drug store as headquarters for the only relief obtainable.

Naturally, under these circumstances the patient's diagnosis would be accepted by the druggist, and beyond a waist measure and inquiry as to which side the rupture was on, no further attempt was made at a diagnosis, and the results of course were obvious and ridiculous.

I have known men who had worn trusses with chafing, irritating perineal bands for years, who had no rupture. In one instance a man had worn a truss for fifteen years for a supposed hernia, until its increasing size and distress brought him to my office, where diagnosis proved it to be a hydrocele. I have seen quite a number of cases in which the truss added to the annoyance

of a large varicocele; in one instance the pad was pressing upon a partially retained testicle, bulging outward at the ring, and of course the last diagnosis was "inflammation of the bowels," and he talked of a damage suit against the drug man for selling him such a stiff spring and hard pad.

This condition "developed the man for the hour." The advertising doctor seized the reins and drove his hobby-horse, fed on strong oats and corn-fed promises, over the same old track, with newly graded curves of variations in the form of trusses and cures by injection. This latter method indeed dates far back in the history of surgery, and although never a popular procedure with surgeons, possesses in a large class of cases much virtue, and in the hands of such eminent surgeons of their time as Pancoast and De Garmo many cures were permanently made.

Where the finger can be passed alongside the cord up into the ring, and become engaged in and measure and size up the opening and not meet with omental or other adhesions, the injection method is perfectly safe and possesses advantages that are certainly easy to carry out, and I have faith in the procedure, provided always that you can *clearly and positively reduce the hernia completely, and with index-finger prove the opening free from any adhesive obstruction whatever.*

First, furnish the patient with a well-fitting truss, that will under all conditions retain the hernia, and have him wear it a week or so before beginning treatment. If this hurts him while in bed substitute an elastic bandage for night wear, and be sure and postpone treatment until the patient assures you that the truss positively prevents its coming down; he must wear some appliance night and day throughout the entire treatment, for the simple reason that its descent would tear open whatever closure you have caused by the injection.

The injection that I have used is as follows:

Sulphate of zinc	1 drachm.
Carbolic acid	40 grains.
Guaiacol	60 minims.
Powdered cantharides	25 grains.
Fluid extract quercus alba	1 fluidounce.
Fluid extract hamamelis virg	1 fluidounce.
Glycerite of tannic acid	1 fluidounce.
Glycerin c. p., q. s. ad	5 fluidounces.

Mix as follows: Put the guaiacol, carbolic acid, and glycerin into a half-pint bottle. Rub the zinc and cantharides into a fine powder and add to the bottle, then add the balance, and put the bottle where it can be shaken up several times a day, until chemical change is complete and no precipitation occurs; this takes a month, when the preparation is filtered, and it will keep clear.

The syringe should have a heavy needle, that cannot be broken off in the pubic tissues. Clean the pubis with soap and water and antiseptics, and boil the syringe; then introduce finger of left hand and engage it in the opening, the patient being prone with the hips elevated, plunge the needle down against tip of finger into canal and deposit from five to ten drops, beginning with lesser amount, and if no particular inflammatory reaction, increase each time as per effect. Be sure and replace truss before patient arises, and put something on him day and night that will keep the gut back.

In all cases get your finger up as high as possible and deposit injection ahead of finger tip, when there will be not a particle of danger, as your finger drawing forward protects the contents of the canal, and by rotating and handling the syringe you can always know that the needle is free and movable in the canal, and there is the place to deposit the injection. From five to fifteen injections are needed to close the opening, according to size, and you know that it is closed when no impulse is felt on coughing or straining.

I am aware that this procedure is looked upon with disfavor by our profession, and the reason, I suppose, is that those who used it successfully were "quacks," but our profession is ever yelling "quack," and under cover of the noise learning something useful from them. We are under obligation to them for many of our best methods, and the true doctor uses anything to cure, no matter what the source.

Surgical Operations.—The nicest, neatest, and most enduring method of curing hernia is by means of modern surgical operations.

The time has passed when the word "failure" in this operation can be spelled correctly. There is no such word.

You can positively assure your patient of a cure without relapse, if your work is perfectly done.

Four years ago I used to insist upon the patient lying flat in bed for three weeks. I have reduced this time to twelve days on an average, and in every favorable case to ten.

All cases prior to operation are thoroughly examined as to condition of muscular and nervous system, heart, kidneys, rectum, and heredity; about one in three will show heredity.

Where there is intra-abdominal pressure from gaseous distention, caused by intestinal indigestion or obesity, preparatory treatment must be insisted upon; also upon patients with chronic cough or constipation, or urethral, bladder, or prostatic disease.

Most particular preparation should always be given obese people past middle age, or in fact any age where there is much abdominal fat. Fatty tissues will not unite; fat degenerates and weakens muscles, crowds into and separates natural openings, and inside the abdomen favors hernial formation by its weight and increased abdominal pressure.

These cases must be prepared and the fat gotten rid of, and the diet as set forth by Dr. Ochsner, in his most excellent work entitled "Clinical Surgery," is the best. I have obtained excellent results by his method, and the beauty of it is that the patient loses from seven to twelve pounds per week, and grows daily in strength. For the benefit of those who have not seen this work I repeat it here; it certainly cannot be repeated too often:

"*Diet List.*—Breakfast: Tea, four and one-half ounces (a small cup); milk, two-thirds ounce (one and a half tablespoonfuls); sugar, seventy-five grains (a small lump); bread, three hundred and seventy-five grains (a small slice); and one egg.

"Dinner: Sour wine, three and one-third ounces (a wineglassful); lean meat, ten ounces; lettuce with vinegar, one and two-thirds ounces; vegetables, one and two-thirds ounces; bread, three hundred and seventy-five grains.

"Supper: Wine, one-half pint; water, one-half pint; quarter chicken, or eight ounces of lean meat, or one egg; bread, three hundred and seventy-five grains.

"Drink nothing during meals or for an hour before or after, except as given in list. When thirsty during the day, drink a little sour wine or sour lemonade.

"Besides this, advise the patient to walk systematically, beginning with a walk that is perfectly comfortable on the first day, and increasing one-fourth mile each day until ten to twelve miles are reached, when speed should be increased to a quick, sharp gait."

With this dietary and exercise fat will disappear at from five to ten pounds per week, and the patient will grow stronger and feel better each day.

A year ago a young lady from upper Michigan consulted me concerning a large double inguinal hernia. She came prepared to undergo an operation, and was greatly disappointed because I declined it on account of her obesity. Although but twenty-one years of age, her weight was two hundred and twenty-five pounds.

I assured her positively that no surgeon could be found who would operate in her excessively fat condition, that the wound would not unite, and that her rupture would be worse than before.

It required positive language, emphatically put, to persuade her from hunting around until she found some one who would do it. Finally she returned home with the above diet list, and following it strictly she returned in twelve weeks weighing exactly one hundred and forty pounds, with good hard muscles, having lost eighty-five pounds. She was feeling and looking better in every way, and her operation was a success, whereas before I know it would have been a failure.

The more I operate the less do I disturb the cord in its relations. Where the opening is large and the muscular fibers thin, feeble, and scanty, I consider the modified Bassini the operation of choice; but with small and medium openings and any fair muscular development I leave the cord alone and stitch the internal oblique and conjoined tendon to Poupart's ligament and reënforce by stitching the external oblique and fascia together well above the first line of sutures. This reënforcement makes a strong defense out of a weak spot, and is eminently successful.

Age does not seem to cut any figure. Recently at the Woman's Hospital in this city I operated on a six-weeks-old boy baby with double scrotal hernia (congenital) with very large openings. When he cried, which he did most of the time, it seemed that most of the abdominal contents were in his scrotum. A truss was of no use. On the right side I found the appendix down in the scrotal sac and tied it off; in length and size it was larger than many normal ones we see in adults.

Thus is summed up in this six-weeks-old baby: a double herniotomy, an appendectomy, a circumcision for adherent prepuce, a division of frenum for tongue-tie. The only noticeable effect produced was that the baby ceased crying, and from that time on was noted by the nurses as the best-natured amongst eleven other babies in that institution.

VENEREAL DISEASE IN CHILDREN.

BY Q. W. HUNTER, M.D., LOUISVILLE, KENTUCKY.

Venereal disease, especially gonorrhea (specific urethritis and vaginitis), occurs in young children much more frequently than is generally supposed. Every physician of experience has knowledge of such cases, but for reasons best known to himself they are not often recorded in medical literature; whether this is because of belief that if reported his ability as a diagnostician might be disputed, or that he disregards the importance of the subject, the writer is unable to state. At all events comparatively

few reports of venereal disease in the young appear in print, whereas the occurrence of many such instances is undoubted.

Causation.—1. There are numerous methods by which young children contract specific urethritis or vaginitis other than by actual sexual contact, *e.g.*, the use of towels, sponges, and other articles which have been utilized for cleansing purposes by persons suffering from the disease. The laity in general are prone to regard gonorrhea as a trivial affection, and appear to ignore or disregard the importance of employing stringent measures to prevent its dissemination, as will be emphasized hereinafter. Many instances might be cited as evidence to prove the statement that venereal disease is not infrequently communicated to young children—especially females—through the medium of soiled towels, sponges, bath-cloths, linen, etc., were it thought necessary.

2. Another source of infection, which appears strange in this supposedly enlightened age, is the superstitious belief that a male with gonorrhea can eliminate the disease by copulating with a female (virgin) child—the younger the child within reason the more certainly will his attack of gonorrhea be thereby dissipated. Such a reprehensible practice need only be mentioned to receive severe condemnation from those acquainted with the dangers of the disease; but be it remembered that among the laity, especially certain ignorant classes, the dangers attaching to venereal diseases are unknown or unrecognized, and the villainous, dastardly act to which reference has been made is occasionally practiced, the results of which can be easily imagined, and certainly require no elaboration or elucidation in an address intended for those already cognizant of the facts.

3. Venereal disease may also be transmitted to young children by accidental contact during the night where the young are required or permitted to sleep with older persons, the latter having the disorder in the communicable stage. Cases of this character have undoubtedly occurred. And the same is true where children are permitted to sleep together, one having been infected, or are allowed to occupy beds in which diseased persons have previously slept, the bedclothing not having been changed in the interim.

4. To the discredit of the race be it admitted that immorality is not unknown even among the very young of certain classes, and venereal disease is sometimes acquired by attempts at sexual intercourse between children of about the same age, one or the other already having the disease contracted innocently, accidentally, or otherwise. Instances of this kind occur with sufficient frequency to demand consideration.

5. One of the common and most pernicious practices in this connection is that of nurses, especially the much praised "yellow" variety, inducing their young charges to sexually entertain them. The writer is aware of several instances in which infected nurse-girls under the age of seventeen persuaded boys of nine and twelve years to copulate, and in this way gonorrhea was transmitted to the children. Many such nurses suffer from venereal disease, and thus it may be seen how children become infected. The nurse transmits the disorder to the male child, perhaps he in turn accidentally communicates it to his little sister; thus all the children (and it may be some of the adults) in the family have been known to become infected before the origin of the trouble was suspected or discovered.

Diagnosis.—At the outset it must be remembered that not all seemingly purulent discharges from the urethra or vagina (of either adults or children) are necessarily specific in character. The ordinary well-known methods of staining will prove satisfactory in establishing a differential diagnosis between specific and non-specific disease. The local appearance of each does not materially differ, and the symptoms may be misleading. The microscope is the only certain means of insuring complete accuracy in diagnosis; but the clinical fact must not be overlooked that according to best obtainable statistics gonorrheal infection is responsible for more than three-fourths of all cases of urethritis and vaginitis in children.

Symptoms.—The symptoms of specific urethritis and vaginitis in children do not materially differ from those observed in the adult from similar cause, except that they are perhaps milder in degree, and with appropriate treatment shorter in duration. This may be due to the immature and undeveloped condition of the sexual apparatus in the young, but the writer has no data by which he can substantiate this assertion. As in the adult, the most prominent symptom is a puriform discharge which is accompanied by the usual inflammatory process. Ardor urinæ and vesical tenesmus are usually present in greater or less degree. Complications and sequelæ observed in the adult do not so frequently occur during the course nor follow in the wake of venereal disease in infants and children, so far as the experience and observation of the writer lead him to judge, though he is unable to offer any adequate explanation of this fact, unless it be that which has already been indicated, viz., the immaturity and undeveloped condition of the anatomical structures concerned. Of course it is understood these remarks have no reference to gonorrheal oph-

thalmia, the prevalence and dangers of which are well known and recognized.

Paulsen,* writing on the gonorrheal exanthemata in infants, declares that skin eruptions are much more frequent in infected infants than in adults suffering from gonorrhea. He reports several cases where the skin lesions consisted of vesicles containing pus with an abundance of gonococci present, which is the only way to diagnose them from innocent eruptions. He believes they are caused by metastases from an ophthalmia or from primary infection of the skin. (The writer thinks the latter must be exceedingly rare.) In severe cases the development of furunculosis and glandular suppuration may ensue.

Marfan† in an article on the complications of vulvovaginitis in little girls mentions the following which are to be recognized: (1) Such as are caused by extension of the process: bartholinitis, vulvitis phlegmonosa, blennorrhagia anorectalis. The infection may frequently involve the urethra, but rarely extends further, causing a burning pain and occasionally prolapse of the urethra, which is liable to cause hemorrhage that may be mistaken for metrorrhagia. Metritis, salpingitis, oöphoritis, and peritonitis are met with; the latter may run a lethal course, or take on a chronic adhesive character. (2) Complications in distant organs: ophthalmia. (3) Complications due to general infection. Rheumatism may appear on the ninth day, be monarticular, and if so, usually attacking the knee-joint. Frequently the capsule of the tendons is involved along with the joint, or the latter may alone be affected. The disease occasionally causes death in the new-born. Its average duration is two weeks. It is well known that endocarditis and pleuritis gonorrheica may also occur.

Prognosis.—If appropriate treatment be instituted early in the attack the prognosis is usually favorable, both as to immediate and subsequent results. Where early treatment is neglected, as not infrequently happens from causes over which the physician has no jurisdiction, the disease may be accompanied by dangerous complications and be followed by serious sequelæ; but as already indicated, this is not in accord with the experience of the writer. Perhaps he may be pardoned for emphasizing that, so far as his observation and experience extend, gonorrheal infection in children of either sex is not fraught with complications and sequelæ endangering life to the same extent as obtains in adults, although it is undenied that complications and extensions of the process do sometimes occur in children.

**Münch. med. Woch.*, 1901.
†*Abeille Méd.*, 1897.

Treatment.—The general principles underlying the treatment of venereal disease are identical no matter what may be the age of the patient; but as this address especially concerns the disorder as encountered in children, it is understood that the remarks with respect to treatment particularly apply to that class of cases.

The patient should be isolated and quarantined to prevent spread of infection, and where possible absolute rest in bed should be insisted upon, at least during the acute stage. The urine should be rendered alkaline and bland. The diet should be restricted to those articles which are easily digested, readily assimilated, and which will produce the least amount of irritation to the inflamed mucous surfaces involved in the process of disease. Stimulating and irritating drinks should be enjoined. Absolute cleanliness is of the utmost importance, as thus greater resistance is afforded the tissues involved and growth and multiplication of the infective organisms retarded.

It must be borne in mind that the local treatment of venereal disease in children presents manifold difficulties because of existing anatomical conditions, *e.g.*, the immaturely developed genitalia not permitting the application of many of the local measures which have been found effective in the adult; but with the exercise of extreme care and patience on the part of the attending physician, injections and irrigations may be practiced when indicated with the expectation of securing perhaps a greater percentage of cures than obtains in adults under similar circumstances. In all instances extension of infection and consequent danger of complications should if possible be prevented, and this can usually be accomplished if the patient be seen early.

As to the choice of remedies to be applied locally: There are many which are considered excellent, *e.g.*, potassium permanganate, protargol, resorcin, chloride of zinc, alum, corrosive sublimate, sulphate of zinc, *et al.* In the opinion of the writer protargol and permanganate of potassium should be given preference, inasmuch as fewer complications appear to have followed their employment and better results have been obtained than by the use of some of the other drugs mentioned.

To prevent the occurrence of gonorrheal ophthalmia the use of a closely-fitting vulvar pad, held in place by a T-bandage, is recommended. If it is suspected that infection of one or both eyes has already taken place, the writer knows of no better plan of treatment than frequent cleansing with warm water, followed by the instillation of solution of protargol one-half per cent.

Great care must be observed in the local treatment of venereal disease in young children that injury be not inflicted upon the

tender structures involved. If a fountain syringe be utilized in the process of irrigation, its height must be carefully regulated that undue pressure be not exerted and the vagina be thus overdistended. An elevation of two feet above the body on an average will fulfil all requirements. If it be considered necessary or advisable to irrigate the bladder, similar precautions must be observed. And care must also be exercised in practicing urethral injections to prevent local injury to the tender structures. Irrigations or injections, as in the adult, may be practiced two or three times daily as indicated. Ardor urinæ and vesical tenesmus if present may often be relieved by sitz baths. Dressings should not be thrown away but be burned, to prevent accidental infection of others.

In a contribution on gonorrheal vulvovaginitis in young children* Peterson summarizes as follows:

1. Vulvovaginitis in the young girl may be divided into simple and gonorrheal.

2. Simple catarrhal vaginitis is due, in a large majority of cases, to lack of cleanliness, and subsides when the proper treatment is instituted.

3. Gonorrheal vulvovaginitis in young children is more common than is generally supposed. While more frequently met with amidst unhygienic surroundings in large cities, it is by no means a rarity in the less thickly settled districts.

4. Gonorrheal disease is more frequent below the age of six, and it is more common in girls than in boys.

5. Specific vulvovaginitis in the large majority of cases arises from actual contact of the patient with some infected person. A study of the reported epidemics, however, shows that the disease may be spread by other means, such as a common bath, towels, bed linen, etc.

6. The ordinary staining methods will prove satisfactory in making a differential diagnosis between specific and other forms of vulvovaginitis.

7. The parts affected in their order of frequency are the labiæ, urethra, vagina, and cervix; the vagina is far more frequently affected in the child than in the adult, owing to the character of its epithelium.

8. The tubes, ovaries, and peritoneum may be involved in the pathologic process. It is not improbable that certain diseases of adult life may be ascribed to gonorrheal infection in infancy.

9. Purulent ophthalmia and rheumatism are quite frequent

**Pediatrics*, 1902 (*American Medicine*).

complications. The strictest prophylaxis should be observed in order to avoid the former.

10. The treatment of specific vulvovaginitis must be energetic to be of any avail. Under certain conditions the vaginal orifice should be widely dilated and the vaginal pus cavity properly drained.

Cassel* made a close study of the pathogenesis of gonorrhea (vulvovaginitis) in thirty little girls. The examinations for gonococci were made according to Gram—staining with methyl violet, afterward with Bismarck brown. It proved that no less than twenty-four of the patients were suffering from true gonorrhea. The ages of the children were respectively one year seven months, another one year, six were aged two years, four from two to three years, six three years, one four and three-quarter years, one five years, three from six to seven years, one eight years, and one eleven years of age.

As regards the cause of the infection, in ten cases none could be found. In one case infection through a brother, eighteen years of age, was probable. In one oxyuris vermicularis was given as the cause by the parents; however, no parasite could be discovered. In three cases the mothers of the girls were suffering from a puriform discharge. Of the single cases, only four were of etiological interest. In three the infection was due to the father—after the puerperium of the mother the children became infected. In a fourth case the infection came from the father direct. In four more cases, some other member of the household was the carrier—brother, bedfellow, sister (puella publica).

As to the method of infection, it is probable that it was usually carried by soiled body linen, etc.

The symptoms were always discharge of greenish-yellow pus from the genitals. In nineteen cases pus could be squeezed out of the urethra and the vulva; only in three cases was the vulva covered with puriform membrane. The hymen was intact in all of the cases.

The course of the disease was variable. In a few cases the discharge ceased slowly; in others it disappeared in a few days.

Of other complications there were observed two cases of connective tissue inflammation, which in both cases took a favorable course.

In the treatment of vulvovaginitis in children Siebert† advises the use of a one-half to one-per-cent solution of protargol, and recommends the following technique:

*Archiv f. Kinderheilk. (Pediatrics, 1902.)
†Münch. med. Woch., 1900.

He places the little patient in the exaggerated lithotomy posture (dorsal decubitus, seat raised with pillow, thighs flexed upon the abdomen and abducted), fills the vagina with the protargol solution introduced by means of a blunt urethral syringe, and cautions against the use of any force whatever. The vulva is held closed for about ten minutes afterward, and the whole procedure repeated three times at one sitting, which therefore occupies a half-hour. The patient receives three treatments a day.

Existing urethral discharge requires the concomitant use of a 0.50-per-cent protargol injection.

From three to eight days' treatment is necessary to cause disappearance of the discharge.

Adjuvant medication in the form of a daily sitz bath in a lysol solution, or in some astringent decoction, and the interposition of moist borated cotton between the labiæ, have proven of great benefit.

After disappearance of the gonococci he advises using a one-per-cent solution of zinc sulphocarbolate applied twice a day for ten minutes at a time, and of the usual protargol treatment for one-half hour daily, and winds up the course with gradual suppression of the protargol.

Laborde* declares that vulvovaginitis gonorrheica is more frequently met with (in young girls) than is generally supposed, comprising three-quarters of all cases of this affection. Prognosis is to be very guarded in those cases in which proper treatment was not employed from the very beginning, for here the patient is threatened with various complications—metritis, salpingitis, pyosalpinx, etc., perhaps even with sterility, as a result of sealing of the tubes. The author considers potassium permanganate solution 1:2000 as the best remedy.

In treating the vulvovaginitis of children Sheffield† advises against the douche, fearing that thereby the infection may be extended to the internal genitals. If it be thought necessary to make use of the douche at any time, it should be hung at a distance of not more than two feet above the child. For arrest of the vaginal discharge he recommends a two-per-cent solution of protargol. When the mucous membrane is very sensitive weaker solutions may serve better purpose. Where the urethra is implicated he prescribes a crayon composed of protargol 12 grains, iodoform 12 grains, Peruvian balsam 6 drops, extract of belladonna 1 grain, together with a sufficient quantity of cacao butter. This formula is intended to make twelve crayons two inches in

**Der Kinderarzt,* 1897 (*Pediatrics*).
†*New York Medical Journal,* 1900.

length and one-eighth inch in diameter, and he directs one to be introduced into the urethra once or twice per day as may be indicated. The author states that forty-six cases of gonorrheal vaginitis treated with protargol were, with but one exception—inguinal adenitis—entirely free from complications. He advises the use of alkaline sitz baths and alkaline diuretics where micturition is painful. If there is severe pruritus, or marked symptoms of inflammation of the genitalia, the child should be kept in bed and powder of zinc oxide and starch applied, special attention being paid to keeping the surface perfectly dry. He reports cessation of the discharge and disappearance of the gonococci in about ten days.

As to internal medication in the management of venereal disease in children, little need be said. The same general rules will govern as in the treatment of this disorder in adults. It is exceedingly questionable whether much benefit is derived from internal administration of the various balsamics which have been in popular use for many years. Oil of sandalwood may exert a beneficial influence under certain conditions, and is probably the best of the older remedies. Urotropin, cystogen, methylene blue, salol, etc., have their indications and are oftentimes useful.

Wolbarst* has seen gonorrhea in male children varying in age from eighteen months to twelve years, and in girls of ten and twelve years. Contrary to the usual belief, most of these cases became infected through sexual relations. The mode of life of tenement dwellers accounts for this sexual precocity. Many cases can be traced to the widely prevalent superstition among the ignorant and vicious that an adult may rid himself or herself of the disease by giving it to a child. Children suffer far more from this disorder than one would expect from the appearance of the parts, which is often explained by the presence of a tight prepuce. When the prostate becomes involved there is intense pain on defecation. The disease usually lasts from four to six weeks.

A poorly nourished negro boy† three years of age was brought to the clinic for treatment of frequent and painful micturition of a week's duration. Examination revealed a penis of unusually large size, with a swollen and edematous prepuce, from the everted orifice of which a stream of thick, greenish-yellow pus was issuing. A slide was obtained from this, which was found, after staining with carbol-fuchsin, to be swarming with gonococci. The mother stated that she shared her small

*Pediatrics.
†Ibid. (Wolff).

house in the negro quarters with a family in which there were a number of half-grown girls, and that shortly before the boy had begun to complain of pain on urination she had detected him in the act of copulating with one of these girls.

A well developed negro boy‡ five years old was brought by his parents for treatment of cystitis that had existed for ten days. There was an almost continuous dribble of urine, and great pain and distress in the region of the bladder. A small quantity of pus was obtained by stripping the urethra, and stained with methyl-blue; it was found to contain a considerable number of gonococci. The boy's mother expressed no surprise when I informed her of the nature of his trouble, and said that she had suspected it, as the boy slept with a mulatto girl of fourteen, who had several times been caught in the act of drawing the boy on top of her; when remonstrated with, she had feigned ignorance of the meaning of the reproof. I had an opportunity of examining this girl some time afterward, and found her suffering from vaginitis, presumably of gonorrheal origin.

A week ago to-day* I saw a boy ten years old with gonorrhea and balanitis. His penis was unusually well developed for his age. There was no pubic hair and no phimosis. He had a discharge from the penis which was shown to be gonorrheal. He was a neatly dressed white boy, and was accompanied by a very intelligent father. The attention of the boy's mother had been directed to the trouble by the boy's sisters, who accompanied him to school, and saw him pinching his penis frequently. Anxious to ascertain the cause of the infection I questioned the father closely, and he told me that there were three children in the family, viz., this boy and two girls, the latter aged eleven and thirteen years respectively. The father admitted that he thought there was something wrong with the girls, and I had them brought to the office.

The first girl, aged thirteen years, was under size, but healthy and neatly dressed. Placing her on the table I found her urethra much swollen and tumefied and pus in it. She had the hymen intact, and the labiæ majora were covered with short, pigmented hairs. With a platinum wire I removed some of the pus from the urethra and placed it on two slides; examination proved it to be gonorrheal. She was also troubled with partial incontinence of urine, especially at night, and with great pain on micturition.

‡*Ibid.* (Wolff).
*Bloom: *Louisville Monthly Journal of Medicine and Surgery.*

The second girl, aged eleven, was entirely undeveloped, but had specific vaginitis. She had no hymen. The vagina was full of pus. On stretching the parts the vagina was found too small to admit the little finger, and the vaginal opening was shown to be little larger than a lead-pencil.

Both these girls had well developed gonorrhea, and the secretion showed abundant gonococci. Inquiry developed the fact that the girls slept together, and the boy with the parents, but I could obtain from the father no history as to the manner of infection. He said the mother kept the girls very strictly and did not allow them to associate with other girls; that they had the complaint three or four weeks before the boy's symptoms developed.

Rona* reports sixteen cases of urethritis (mostly specific) in boys between the ages of fifteen months and thirteen and a half years.

Poynter† mentions the case of a boy three years old who was infected with gonorrhea by a vicious nurse girl (colored) sixteen years of age. Two years afterward the child had urethral stricture.

Abbe‡ recorded the case of a boy three years of age who acquired gonorrhea from a vicious girl. Multiple urethral stricture developed later, requiring external and internal urethrotomy.

McMunn§ refers to the case of a boy aged five years who at the age of two had a thick, yellow, urethral discharge lasting ten months. Close questioning failed to elicit a positive cause of the urethritis, but the mother stated the child's nurse suffered from a yellow discharge at the time. Stricture also resulted in this case.

Himowich‖ reports two cases of gonorrhea in brothers aged six and eight years in which urethral stricture developed some time later.

Rona¶ also reports the case of a boy aged seventeen years who had gonorrhea at the age of eleven and again at the time seen (when seventeen years of age), and who developed urethral stricture.

Archiv für Derm. und Syph.
†*Medical Record.*
‡*New York Medical Journal.*
§*British Medical Journal.*
‖*Medical Record.*
¶*Loc. cit.*

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE TRAINED NURSE.

Of late there appears to be a feeling that the nurse who is a graduate of some large hospital training school is not as indispensable as she was once thought to be. We often hear complaints from graduate nurses that they are not receiving from the medical profession the support that they deserve, and that physicians in a great many instances discriminate against them by recommending to their patients nurses who have not had the advantages of a training school. So wide-spread appears to be this dissatisfaction that the *American Journal of Nursing* has taken up the question and is endeavoring to find if possible why this attitude has been assumed by so many medical men. A nurse writing to this journal claims that doctors do not appreciate the value of the training received by nurses in the hospitals, where they must spend several years before being deemed competent to care for the sick. We cannot agree with any such explanation as this, for no class of men value technical training more than physicians. The trouble lies with the trained nurse herself, who, in the opinion of many physicians, has been overtrained for those duties which are necessary to the care of sick people. The training which nurses receive in diagnosis, pathology, and treatment in many instances spoils them for the mere care of the sick, and by reason of this many physicians, rather than lay themselves open to criticism in their manner of handling a case, prefer to employ a woman who is not a half-baked medico. The training that nurses receive in regard to the taking of temperatures, the counting of the pulse, giving of enemata, douches, etc., is right and proper, and proficiency in them marks her as a skilled attendant, but why spoil her by attempting to teach her anatomy, chemistry, bacteriology, and therapeutics? The little

she learns of these subjects only exemplifies the old saying that "a little knowledge is a dangerous thing." Then there is always trouble in a household when a trained nurse appears on the scene. Many of them think that because they are holders of a training-school diploma they ought to be treated as guests and not as workers. This attitude is a very wrong one and only makes discord in the household. A nurse goes into a home where there is sickness to work and not to be waited upon. What the physician wants is help from a competent woman who combines pleasantness of manner, simplicity, and fidelity, as well as the qualifications which have been acquired during the training-school course. The nurse who can enter a home where sickness exists and take full charge, and who is capable and willing to help in all domestic matters, is the one most sought for, and physicians care little whether or not she is the possessor of a diploma. It would seem to be a far better plan to eliminate the lectures in anatomy, etc., and to substitute for them a thorough course in domestic science. The vocation of nursing has opened up a profitable and dignified field of labor for women who must make their own way in the world, but the graduate nurse who places herself upon a pedestal and considers herself above the many menial duties that must be attended to will soon find herself put aside for her less trained sister, who will be a real help in the household of the sick.

EDITORIAL NOTES.

A Tribute to the Medical Profession.

At the recent meeting of the Associated Physicians of Long Island, President Roosevelt delivered an address. In the course of his remarks he said "there is not and cannot be any other lay profession the members of which occupy such a dual position, each side of which is of such importance, for the doctor has on the one hand to be the most thoroughly educated man in applied science that there is in the country, and on the other hand, as every layman knows, and doubtless many a layman in the circle of acquaintance of each of you would gladly testify, the doctor gradually becomes the closest friend to more different people than would be possible in any other profession." He also took occasion to comment on the work of the medical profession in the cleaning up of Cuba a few years ago, saying: "This country has never done better work—that is, work that reflected more honor

upon the country or upon humanity at large—than the work done in Cuba." Such pleasant words of commendation are very acceptable, and coming as they do from one who is at all times in intimate contact with all sorts and conditions of men, they cannot fail to impress the public in regard to the real value of the services rendered to mankind by the medical profession.

The Yellow Fever Situation.

Since July 23 yellow fever has been raging in the Southwest, principally in New Orleans and its environs. At first the State authorities of Louisiana and Mississippi declared themselves perfectly competent to cope with the epidemic, but after the lapse of a week or so they appealed to the Federal authorities to take charge of it, and now the Public Health and Marine Hospital Service officers are using every effort to stamp it out, and with apparent success. Victims of the fever have been isolated in suitable camps, and the work of screening and fumigating of infected houses, together with the oiling of stagnant pools, has been going forward. The efforts of the Federal authorities will be watched with interest by the profession, as their efforts are based largely upon the assumption that the mosquito is solely responsible for carrying the infection. If their efforts are crowned with success, and before the coming of frost, the mosquito theory will be confirmed beyond doubt.

The Fear of Being Buried Alive and its Prevention.

The fear of being buried alive is a spectre that continually haunts certain individuals. Burial of the living is something of the greatest rarity, although in times of epidemics and after a battle such a thing is not impossible. Recently a Marseilles physician has published a method devised by himself for the detection of life if it persists. He proposes as an infallible test the hypodermic injection of a solution of fluorescein. If the blood of the supposed dead person is still circulating the dye is absorbed and the body rapidly turns an intense yellow, while the eyeballs become an emerald green. The test requires only a few moments to apply, and the results are too striking to pass unnoticed. The general adoption of this simple method of deciding between apparent and real death would forever eliminate any possibility of any one ever being buried alive.

The Norman Kerr Lectureship.

Dr. T. D. Crothers, of Hartford, Conn., superintendent of Walnut Lodge Hospital, has accepted an invitation to deliver the first oration in the Norman Kerr memorial lectureship, at London, Eng., October 10, 1905. Dr. Kerr will be remembered as an eminent London physician who made a special study of inebriety, alcoholism, and other drug disorders. He wrote several excellent books on this subject, and was instrumental in securing the enactment of laws for the control of inebriates, and the promotion of hospitals for their cure throughout Great Britain. He founded the British Society for the Study of Inebriety in 1884, and this society and his friends have organized a memorial lectureship for yearly orations on his life and work. It is a very pleasant recognition of the progress of medical science in this country that an American physician should be invited to deliver the first lecture.

Whistle to Bring Aid to Injured Soldiers.

That wounded soldiers on the field of battle are often overlooked and mistaken for dead on account of their being too feeble to call out is a well known fact. To remedy this a physician in the Japanese Red Cross service has invented a whistle which with very slight exertion gives a loud sound, and thus attracts the attention of those in search of the wounded. The general adoption of this suggestion would doubtless mean the saving of many a soldier's life.

Lectureship on Tuberculosis.

The State University of Iowa will during the coming session make a new departure in establishing a separate lectureship on tuberculosis. The importance of this subject and the work that is being done in the study of this affection would seem to warrant every medical college in following the example of the Iowa university.

ITEMS AND NOTES.

QUEENSLAND has had an epidemic of dengue.

THE meeting of the British Columbia Medical Association was held at Vancouver, B. C., July 18 to 20.

PRESIDENT ROOSEVELT recently inspected the Sea Breeze Home on Coney Island, established for children suffering with tuberculosis of the bones.

THE Reid Memorial Hospital, a public institution made possible by the gift of $75,000 by Daniel Reid, of New York, was dedicated at Richmond, Ind., July 27.

THE Bissett-Hawkins gold medal of the Royal College of Physicians has been presented to Sir Patrick Manson for the services he has rendered to science and humanity by his researches on tropical diseases.

AT the recent meeting of the Board of Trustees of Bellevue and Allied Hospitals, Dr. Samuel T. Armstrong, medical director of the Washington Life Insurance Company, was appointed superintendent of the city hospitals.

ALAN GREEN, bacteriologist in charge of the vaccine lymph department, Lister Institute of Preventive Medicine, has been awarded a silver medal by the French Academy of Medicine for his work on vaccine, published in the Proceedings of the Royal Society.

THE medical profession of the future will find its best exponent in the service of senectitude. An old age without illness or dementation, a ripening without decay, a completion of the functional activity without the breaking down of any organ, are steps toward which the medical profession of the future may well direct its energies.

THE Congress of the International Society of Surgery will hold its first meeting this year at Brussels, under the patronage of His Majesty Leopold II., King of the Belgians. The congress will be in session from Monday, September 18, to the following Saturday inclusive, under the presidency of Theodor Kocher, M.D., professor of surgery in the University of Berne.

HERR ERFEURT, a chemist of Berlin, is said to have succeeded in transmitting the qualities of radium to a substance he calls radiopher. This can be made cheaply, and if all claimed is true it will be of great use in medical practice, since it can be injected under the skin and in other parts of the body. It is said by an exchange to possess all the qualities of the original radium, but in lesser degree.

DURING 1904 the total number of licensed experiments on animals in Great Britain was 32,562, an increase over the previous year of 13,478. Most of the increase consisted of inoculations and hypodermic injections. Anesthetics were administered in 2216 cases. In only four cases were irregularities observed; these were evidently due to a misunderstanding of the law, and the operators were given only a reproof.

CENSUS TAKERS have found, says a contemporary, the largest family in Wisconsin at Littel Christe. Mr. and Mrs. Anton Verkullen are parents of twenty-seven children, all but three of whom are living, and most of them are still under the parental roof. Verkullen is fifty-three years old, and his wife is one year his senior. They were married June 1, 1875. In the family are three sets of twins. Five of the children are married, and the oldest is the father of four children.

THE conclusion of the Isthmian Canal Commission that proper recreation is necessary for the men engaged in the various branches of the construction has resulted, says the *Medical Record*, in the engagement of W. E. C. Nazro as recreation expert. Mr. Nazro, who has made a specialty of such matters, will go to Panama, and after investigating the needs of the employees will make a recommendation to the commission as to plans of recreation, including an amusement hall, club-houses, facilities for outdoor sports, etc.

DR. B. H. WARREN, the commissioner of the dairy and food department, is sending copies of an appeal to more than 5000 clergymen throughout Pennsylvania, asking them to adjure their congregations to abstain from all alcoholic liquors at least temporarily, as a guard to their health, says *American Medicine*. He says that certain unscrupulous dealers, confident that they are removed from the power and scope of the dairy and food commission, have begun to flood the State with liquors adulterated with poisonous drugs, and declares that the safety of the public health lies only in abstinence from all alcoholic liquors for a time.

It is stated by a contemporary that at an execution at Orleans, in France, which took place recently, the severed head was instantly seized by the doctor, who loudly called the man's name into his ear. It is further stated that in response to this the eyes slowly opened and then closed again. A repetition of the process was followed by a similar response. But the third essay proved fruitless. Assuming the facts to be as stated, the question arises whether the act was one of consciousness or simply of reflex excitability.

A letter written by Professor Koch to a friend and published in the German newspapers gives some particulars of the work in which he is now engaged. He is at present in South Africa, and writes from Fringa in Ubebe that he has succeeded in discovering the origin of the tsetsę-fly disease, from which many cattle die on their way from Ubebe to the coast. He has not only found trypanosomes within the tsetse-fly, but has also ascertained that these parasites undergo therein a peculiar development. Professor Koch describes the climate of Ubebe as very healthy and fit for European colonization. The air is bracing and cool, somewhat suggesting that of the Alps and Norway.

At a meeting held on June 20 the medical faculty of the University of Rome, on the proposal of Professor Baccelli, passed the following resolution: "In view of the painful spectacle presented by differences of opinion between medical witnesses testifying on one side or the other in criminal cases, leading sometimes to unseemly disputes in public, a radical reform of the system of medical evidence is necessary in the interests alike of science and justice. It is urged that a single board of experts should be established, whose special knowledge should be impartially at the service of both sides. The Rome faculty invites the coöperation of all the other medical faculties of Italy in bringing about this reform."

It is confidently predicted that 1905 will establish a new record for the healthfulness of Chicago. This is based on the fact that the average annual death-rate of the first six months of each year during the ten years 1895 to 1904 inclusive was 15.51 per 1000 of population. For the last six months of each year the average was 14.43, or 7.48 per cent lower. The rate of the first six months of 1905 is 14.09, the total deaths being 13,918. If the second six months should be 7.48 per cent lower than the first six months, its rate will be 13.04, the total deaths

for the year about 26,800, and the annual rate for 1905 will be 13.56—the lowest ever recorded for Chicago. The lowest previous was 13.88 per 1000 in 1901, a year of unusual healthfulness throughout the world.

An official report of an epidemic of bubonic plague that occurred at Kisumu in the British East African Protectorate last year expresses, says an exchange, the opinion that Kisumu, Africa, is an endemic focus of the disease, and accepts as authentic the evidence collected among the natives of an extensive epidemic of bubonic plague about fifty years ago. The important commercial bearing of this conclusion rests in the fact that the railroad terminus and the port are situated in an endemic home of plague. Koch, as a result of his investigations some years ago, added East and Central Africa to the endemic centers of plague which had been previously mentioned by Dr. J. F. Payne, namely, the district of Assyr in Arabia, parts of Mesopotamia and Persia; the districts of Garwhal and Kumaon, in the northwestern provinces of India, and Yunnan in China. The epidemic focus described by Koch includes the district of Kisiba in German East Africa, and extends into Uganda.

In India physicians are making strenuous efforts to encourage the people to undergo inoculation against the plague, but as the masses do not take very kindly to the treatment some novel and interesting plans have been proposed to secure its adoption. It was suggested to the government of Bombay that it should pay 100 rupees to the family of any person who should die from the plague within a year after inoculation. The government, however, declined to entertain this proposition, and while it is officially committed to inoculation, it is rather lukewarm in its practical support of the treatment. The adherents of inoculation then addressed themselves to the insurance companies, and urged that they undertake the business of insuring against plague, and make a lower rate to those who had been inoculated. This might possibly lead to a policy similar to that pursued by insurance companies in Germany, where the tuberculous policy-holders receive medical treatment in specially maintained sanatoriums. Thus in India medical treatment could be given to policy-holders who have been inoculated, as it is known that by using antiplague serum the danger of death can be even further reduced. As there are sometimes as many as a million deaths a year from this dread disease, the necessity of thorough preventive measures is apparent.

NEW PUBLICATIONS.

COLOR VISION AND COLOR BLINDNESS.

The far-reaching and disastrous effects of defective form and color sense in railroad employees and seamen are convincingly set forth by the author of this manual. In this the second edition the writer has added chapters on methods of testing the form and light sense; rules for the examination of the sight and hearing of railroad employees; descriptions of Williams's and Thompson's lanterns, Williams's and Black's semaphore charts, and Abney's pellet test for central scotoma. While the author makes no claim to originality, he has produced a practical work which contains all that is essential to a perfect understanding of the subject.

Color Vision and Color Blindness. A Practical Manual for Railroad Surgeons. By J. Ellis Jennings, M.D. (University of Pennsylvania), formerly Clinical Assistant Royal London Ophthalmic Hospital; Professor of Diseases of the Eye, Medical Department Barnes University, St. Louis; Ophthalmic Surgeon to the Centenary Hospital; Ophthalmic and Aural Surgeon to the St. Louis and San Francisco Railway System, etc., etc. Second Edition, Thoroughly Revised, with Illustrations; 132 pages, crown octavo. Price, extra cloth, $1.00 net. F. A. Davis Co., Publishers, 1914 Cherry St., Philadelphia, Pa.

MATERIA MEDICA, THERAPEUTICS, AND PHARMACOGNOSY.

The author of this volume, who is a well known practitioner of the eclectic school, has endeavored to make an authoritative presentation of the therapeutics of the indigenous remedies of this country, and has evolved a new and intensely practical method of drug application. The method of classification is original, and the attractive character of the text will appeal to every reader. The work has been revised for reference by the faculties of both regular and homeopathic schools. The author has had the assistance of Prof. John Uri Lloyd in that part of the work which deals with the subjects of pharmacy and pharmacognosy. This work will be found acceptable to every physician without regard to school.

Materia Medica, Therapeutics, and Pharmacognosy. By Finley Ellingwood, M.D., Professor of Materia Medica in Bennett Medical College, Chicago. Fifth Edition, Thoroughly Revised and Greatly Enlarged. Chicago Medical Times Publishing Co., 1905.

INTERNATIONAL CLINICS.

The last volume of International Clinics contains a large amount of valuable material. These volumes have long enjoyed a well deserved popularity, containing as they do a résumé of some of the best work done during the year. The present volume will repay careful reading.

International Clinics. By Leading Members of the Medical Profession Throughout the World. Vol. 11, 15th Series. J. B. Lippincott Co., Philadelphia, Pa.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Prevention of Shock.

Assuming that surgical shock is due to the functional impairment or even exhaustion of the vasomotor centers through afferent impulses set up by trauma, exposure, etc., G. W. Crile (*Journal of the American Medical Association*, June 17, 1905) discusses the means of its prevention as well as that of hemorrhage in various surgical procedures. Aside from the impulses mentioned there are a number of important accessory causes to be reckoned with, he states, including psychic emotions such as fear, hemorrhage, cold, acute and chronic infections, anemia, cachexia, etc., and age and sex. One or more of these is met with in every case. In operations on the head he emphasizes the importance of giving particular attention to circulatory conditions, of reducing to a minimum the exposure and manipulation of the meninges and the brain, and of having as complete control of the blood-pressure as possible. He has clamped the carotids in forty-one cases without unfavorable effects, and thinks it a valuable method of controlling hemorrhage in certain cases, together with the head-up posture and the use of the pneumatic rubber suit. In laryngeal operations the danger of cardiac collapse can be avoided, he says, by previously giving a physiologic dose of atropine or by the local use of cocaine. In minor intrathoracic operations, where there is hampered respiration and seriously impaired circulation, Crile advises local anesthesia, and if further measures are needed they can be carried out later, after the patient's forces are recruited, under surgical anesthesia. The supreme importance of the respiratory action on the circulation must be kept in mind as well as the danger of interfering with the large venous trunks. In abdominal operations shock is in direct ratio to the trauma and exposure. In all time-consuming, exacting technique he advises, no special contraindication existing, the use of morphine-ether anesthesia—ether during the abdominal incision and the exploration and development of the operative field, morphine alone with slight or no ether accessory during technique proper, and ether again in closing the abdominal wound. The region around the diaphragm is much more shock-producing than the lower abdominal tract, and he

cautions the anesthetist against being misled by the expiratory moan in these upper abdominal operations and overdoing the anesthesia. In anemia, cachexia, and acute infections the available vitality must be most carefully estimated, and methods safely within its limits be adopted. The prevention of shock in operations on the extremities is narrowed down to two or three simple propositions—the minimum loss of blood and the least manipulation and force, and the "blocking" of the nerve trunks by intraneural injections of cocaine or eucaine.

Crile summarizes his views as follows: "Every tissue and organ has a more or less individual shock-producing value, and must be individually considered. The amount of shock produced by a given trauma varies according to the amount and special quality of its nerve supply, and the number and intensity of the afferent impulses originated by the injury or operation. Cocaine or eucaine may wholly 'block' these shock-producing impulses. When one or more of the accessory causes of shock are present the highest possible tax is laid on the surgical judgment of the operator. A precise technique offering a minimum of exposure and trauma, grafted on a comprehensive grasp of all the factors entering into the operative consideration, are the ideals for which we must strive."

Remarks on the Etiology of Fissure in Ano.

J. R. Pennington (*Medical Record,* June 10, 1905) says that the text-books offer no explanation of the fact why fissure in ano is most frequently found at or near the posterior commissure, and why, although it occurs at the anterior commissure in men in only one per cent of the cases, in women it is found in this situation eight times as often. He analyzes the support to the anal canal afforded by the levator ani and sphincter muscles, and reaches the conclusion that the posterior commissure is less well reënforced than the anterior, and that in women the anterior commissure is structurally weaker than it is in men. The tear naturally takes place at the weakest points in the muscular cylinder surrounding the anal canal. The dorsal surface receives the least support, the anterior the next, while the sides receive the greatest. Experimentally with and without anesthesia, a conical anal dilator, when forced into the anal canal, tears the dorsal surface first and almost universally, the anterior occasionally, and the sides rarely. From the foregoing it will be seen that the sequential points of muscular weakness, experimental tears, and location of fissure in ano correspond.

Causes of Sudden Death.

Lochte (*Vierteljahrsschrift f. gerichtl. Medizin*, 1904) reports 101 cases of sudden death, classified as follows: One of spontaneous rupture of the left ventricle; nine of excessive dilatation of the heart; six of myocarditis with disseminated vegetations; sixteen of occluded coronary artery, probably due to syphilis; seven of cerebral hemorrhage; three of pulmonary hemorrhage; two of emphysema with purulent bronchitis; one of bronchiectasis; one of seropurulent pleuritis combined with serious cardiac lesions; one with double pleuritic adhesions; thirty-three ruptured aneurisms; one rupture of varix of leg; two of pulmonary emboli following thrombophlebitis of saphenous vein; one of epilepsy; one of peritonitis following rupture of intestine; twenty-five cases following acute alcoholic poisoning; one each of meningitis, erysipelas, endocarditis ulcerosa; two of typhoid fever; six of croupous pneumonia.

He found that in the first thirty cases arteriosclerosis played an active part; five times death could be attributed to syphilis. Valvular lesions were observed four times. In two cases the cause of death was uncertain, and in a number of cases a diagnosis could not be made at all.

Inflammatory Conditions of the Appendix Accidentally Brought to Light in Pelvic Operations.

Hunter Robb (*St. Louis Medical Review*, July 8, 1905) says that in a large number—in his series in three hundred and twenty-three out of three hundred and seventy—of pelvic cases no inflammatory changes in the appendix are found, even microscopically.

When we find a normal appendix in conjunction with disease of the pelvic organs, it is improbable that the latter condition has been brought about by a perforation of the appendix which had afterward healed.

On the other hand, an old periappendicitis and adhesions may often be looked upon as the result of a septic infection, originating in and spreading from the organs of generation.

An appendix which looks abnormal macroscopically does not always show inflammatory changes on microscopical examination.

Nevertheless when the removal of the appendix adds very little to the gravity of the abdominal operation, for the benefit of the patient it should be taken away.

In the series of three hundred and seventy cases there were four deaths, but a careful analysis goes to show that the fatality could in no instance be attributed to the removal of the appendix.

Treatment of Burns.

Weidenfeld (*Wiener med. Presse,* No. 25, 1905) finds the cause of death in severe burns to be due to the formation of poisonous substances in the burnt skin. Burns of the third degree, though covering but one-eighth of the body surface, may prove fatal. The author suggests that severe burns be covered with a saline solution and all eschars immediately removed. Patients with burns covering one-fourth to one-third of the skin have recovered.

MEDICINE.

A Contribution to Hemophilia.

F. P. Kimmicutt (*Medical Record,* June 10, 1905) describes the history of a hemophiliac whose symptoms began in infancy and persisted with great severity until the time of his death at the age of sixteen. Frequent attacks of pain and swelling in the joints, including the smaller articulations, due to hemorrhage, and finally leading up to permanent structural changes, were a prominent feature of the case, and death was brought about by an intra-abdominal hemorrhage. The ancestry could be traced with much minuteness, but no evidence of heredity was found.

The general nature of the disease is then discussed, with especial reference to the occurrence of joint manifestations and the pathology of such conditions. The author points out the possibility of confusing arthritis of this nature with that of tuberculous or rheumatoid type, and says that in joint affections bearing a resemblance to tuberculous disease in infancy and childhood the family history as well as the personal history should be studied carefully previous to operative treatment. The tuberculin test in a hemophiliac is not without danger from injury by the needle.

The question of treatment is considered at some length, the preference being given to the physiological styptics rather than to such agents as tannic acid, salts of the heavy metals, etc. The author speaks highly of the value of calcium chloride in this connection, and says that the present views of the therapeusis

of hemophilia may be summarized as follows: (1) The internal administration of the lime salts, especially of the chloride of calcium, in doses of two grammes (30 grains) twice or thrice daily. Its continued use should be interrupted every two or three days by a period of twenty-four hours. (2) The application of solutions of the same salt with compression, for accessible surface bleedings. Aqueous solutions of one half per cent are efficient. Another convenient mode of employment is in the form of a finely powdered chalk mixed with one half per cent solution of the calcium chloride. The less soluble lime salts, such as calcium phosphate, are equally efficient for local application. (3) The use of a combination of one-half per cent solution of calcium chloride and one-sixth volume of a solution of nucleoalbumin for local application. The nucleoalbumin can be obtained from aqueous extracts of various cellular tissues—testicle, thymus, thyroid, ovary, etc. If the prepared extracts are not available, a supply may be procured readily by mincing any of these tissues in a weak alkaline solution (1:500 solution carbonate of sodium), and filtering through gauze after a few minutes. (4) The application of a stream of carbonic acid gas to the bleeding surface, in accessible hemorrhage; its inhalation, freely mixed with ordinary air or oxygen, in concealed hemorrhage. (5) The use of four-per-cent solution of chloral hydrate for surface bleeding, and also of adrenalin (1:1000), with compression.

Federal Control of Vaccine Virus.

J. F. Anderson (*Journal of the American Medical Association*, June 10, 1905) gives an account of government inspection of vaccine virus, under the regulations that have been in force for nearly two years. At present there are eight firms licensed to engage in the manufacture and interstate sale of vaccine. They are Parke, Davis & Co., Detroit; H. K. Mulford Co. Glenolden, Pa.; H. M. Alexander Co., Marietta, Pa.; Fluid Vaccine Institute, Milwaukee, Wis.; Pocono Laboratories, Swiftwater, Pa.; National Vaccine Establishment, Washington, D. C.; Frederick Stearns & Co., Detroit; and the Cuttler Analytical Laboratory, San Francisco. These establishments are rigidly inspected without notice by the government inspector, with special attention to sanitary conditions, laboratory methods, details of manufacture, etc., and monthly tests are made of samples purchased in the open market at the hygienic laboratory of

the Public Health and Marine Hospital Service at Washington. These tests include the making and testing of cultures, animal experimentation, and actual vaccinations. If any faults are discovered, especially bacteriologic contamination of a serious nature, or lack of potency, the facts are reported to the surgeon-general, who calls the attention of the manufacturers to them. Examinations of vaccine material have been made almost continuously since the winter of 1901-02, and a table is given showing the comparative bacterial contamination in 1904 and in prior years, the highest and lowest and average number of colonies found in tubes and points respectively being reported.

Almost every manufacturer's product showed a very remarkable improvement in 1904 over the previous period, the only exception being in a manufacturer whose product has always been particularly free from contaminating organisms and has given a high percentage of "takes." In 1904 his samples, though giving an increased figure, still showed the lowest average but one. "We cannot but feel," says Dr. Anderson, "that this decided improvement has been due to the rigid inspection and control of the manufacture of vaccine virus by the Federal government." At present, pathogenic streptococci or staphylococci are very rarely found, and no case of tetanus contamination has been observed. One precaution is mentioned as perhaps still advisable—that is, that special care be taken as regards exposure to temperature in the transportation of vaccine material.

Chronic Acetanilid Poisoning.

D. D. Stewart (*Journal of the American Medical Association,* June 3, 1905) reports two cases of acetanilid addiction, one of them at considerable length, and refers to others in the literature. The symptoms in the severer cases of chronic poisoning by the coal-tar products are, he remarks, very similar as regards mental and physical debility. There is cardiac weakness, more or less pronounced cyanosis, and blood changes characteristic of the action of a hemolytic agent. But for the leucocytosis the blood picture would almost suggest pernicious anemia, with its diminution of erythrocytes and changes in their size and shape, the presence of erythroblasts often in larger numbers than in pernicious anemia, of polychromatophilic cells, and of cells undergoing protoplasmic granular degeneration. There is usually a notable increase of blood plaques, and a leucocytosis is

common, the increase, it is reported, being usually in the polymorphonuclear elements. In Stewart's cases, however, which were uncomplicated, there were 37 and 35 per cent respectively of lymphocytes. He thinks that possibly in other cases there might have been some complicating disease influencing the leucocytosis and the proportion of polymorphonuclears. In Cabot's case, complicated with nasal carcinoma, while the blood had the characteristic chocolate hue, and the hemoglobin was therefore not estimable, there was a leucocythemia. Erythroblasts were lacking; methemoglobin was demonstrable in both blood and urine, and the patient's general condition was good in spite of the evident cyanosis. Such a case might superficially suggest, he says, the condition that has lately attracted considerable attention—chronic cyanosis with polycythemia and enlargement of the spleen. The difficulty sometimes attending the diagnosis in these cases has been noted by others, and stress has been laid on the characteristic anemia, etc.

Chronic Diarrhea.

R. W. Wilcox (*American Medicine*, June 10, 1905) gives the following synopsis: Diarrhea being a symptom, the cause should be ascertained. This may be (1) mechanical; (2) nervous; or (3) hemic. Under each division there are subdivisions, each subdivision representing an etiologic factor, which is the basis for treatment. The last should be considered under (1) dietetic; (2) hygienic; (3) medicinal. Certain remedies and methods should be avoided. Opium is only admissible when the alimentary canal has been thoroughly emptied to check excessive peristalsis. It should be given hypodermically as morphine, in substantial doses, and not repeated. A prescription for opium or any of its preparations or alkaloids should never be entrusted to nervous patients; there is too great danger of habit formation. The tannin preparations are sometimes useful in precisely the same way that they are useful as antidotes in alkaloidal poisoning, by temporarily inhibiting the action of bacteria and their toxins. Bismuth naphtholate, bismuth tribromophenolate, and bismuth tetraiodophenolphthaleinate are more effective. Wilcox emphasizes the importance of recognizing that the diarrhea is not always due to demonstrable changes in the alimentary tract. Much as we dislike to present symptom treatment, yet pending further knowledge we must divide diarrheas into classes, based upon their causation, and then proceed to treat them intelligently.

Bright's Disease in High Official Circles at the Nation's Capital.

T. L. McDonald (*American Medicine,* June 3, 1905) says the strenuous life, excessive mental activity and the corresponding degree of physical quiescence, and years of overindulgence in rich foods, with its associated high blood-pressure, are the essential causes which render Bright's disease frequent in the high official circles at Washington. In conclusion he emphasizes the following facts: Unemployed food products become toxic irritants and menace the structural integrity of the kidneys. Man is an organism built round an eliminative system; when that is abnormal he cannot be normal. When the balance between ingestion, metabolism, and elimination is absent, danger is present. Apparently nutritional excess is the germ of nephritis. Mental activity and physical quiescence aid in its production. Carking care and the corrosive influence of worry and mental strain render prominent aid in producing it. It is prone to attack the intellectual and the anxious. Alcohol, while affording it encouragement, has been given a too conspicuous place as a causative agent. It is an extremely insidious disease, and is often well advanced when discovered. It is so far-reaching that its first noticeable effects may be visited upon organs and tissues remote from the original disease. The conditions which lead to it are quite amenable to correction if efforts are made sufficiently early. It occurs somewhat frequently at the nation's capital because the congregation of eminent public men means a concentration of worries, wealth, and official feasting.

Malarial Infection Presenting Symptoms of Multiple Neuritis.

George E. Price (*American Medicine,* June 3, 1905) reports a case in a girl aged eight who had multiple neuritis of eighteen months' duration following malarial infection. The symptoms were pain, paresthesias, tremor of hands, diminishing power in all extremities, particularly marked in the flexors of the ankles and giving the characteristic "foot drop." There was also a slight intermittent rise of temperature. The malarial parasite of the estivo-autumnal variety was found in the blood. This corresponds to the findings of Spiller and other observers, in various forms of malaria of the nervous system. Recovery followed the administration of quinine.

Negri's Bodies in Rabies.

Schiffmann (*Wiener klinische Wochenschrift*) believes that, owing to the constant findings in animal experiments, the Negri bodies are the cause of rabies, and that they are of diagnostic value. They are usually found in the cornu ammonis. The author studied them in animals that had been inoculated with the same virus. In eight dogs and two humans the author found all three forms of bodies. In the transmission of the infection to other animals the bodies undergo changes in form. He could not determine that this change was of a parasitic nature or a degenerative process.

Primary Microgastria.

Benbersky (*Berliner klin. Wochenschrift*, 26) finds that in addition to an enlarged stomach we have a small one. This he says has been much overlooked; it is often found in women, and is easily determined by inspection, the lower border of the stomach lying very high. Patients with small stomachs naturally eat very little at one time, and often suffer from violent vomiting and singultus. This condition is a congenital defect, and treatment consists of dieting and systematic washing of the stomach.

THERAPEUTICS.

Rectal Injections of Large Doses of Sodium Salicylate in Cerebrospinal Meningitis.

A. Seibert (*Medical Record*, June 17, 1905) believes that the administration of large doses of sodium salicylate given by rectum to avoid gastric disturbances forms the most satisfactory plan of treatment for this disease. Tapping the spinal canal by lumbar puncture may be of great value in some cases by relieving pressure, but it is not curative, and injections of antibacterial fluids into the spinal canal never reach the organisms they are intended to destroy. An effective remedy for cerebrospinal meningitis must travel the same road which the infection germ has taken through the blood current. Salicylates have been used before in this condition, but in doses that were entirely too small. Five cases are described in which the use of large doses of the drug appeared to exert a very powerful curative effect. According to the age of the patients sodium salicylate was given by rectum in fifteen-grain doses dissolved in a tablespoonful of water, at intervals of from one to eight hours, the salicylization being

gradually reduced as improvement followed. In one case, that of a boy aged four and a half years, who had had the disease for seven weeks some months previously and presented numerous sequelæ, such as contractures, hemiplegia, strabismus, etc., very remarkable improvement followed the treatment, though it was begun at so late a date. In a tuberculous case the salicylate did not appear to be effective. The author urges those who have charge of large numbers of cases of the disease to give a trial to this plan of treatment, which he is convinced is of value in all cases where serous, not purulent, exudate forms.

Starch Treatment of Gastroenteritis.

C. Lesage (*Annals of Gynecology and Pediatry*, July, 1905) has studied thirty-three cases. He put the following vegetables in a liter of water and boiled them in a covered dish for four hours: Potatoes 60 grammes, carrots 45 grammes, turnips 15 grammes, dry peas 6 grammes, and dry kidney-beans 6 grammes. An extract is thus obtained, which is increased to one liter with water after draining. Five grammes of salt is then added. With this bouillon soups may be made with rice-flour, a coffee spoonful to 100 grammes. When a patient has been on water diet before resuming his usual diet we may give this vegetable bouillon, either pure or with rice-flour added. We thus gain an important food in the treatment of gastroenteritis. The vegetables serve as a medium for the culture of acid-producing microbes, and have a restraining action on the proteolytic activities. They check putrescence and favor intestinal antisepsis. This vegetable bouillon, whether used pure or with the rice-flour, has this advantage over plain water treatment: the latter cannot be continued long, while this may replace all milk alimentation for from two to eight days. He noted that on this diet the dejections became normal and the weight increased. Moreover, it renders the return to milk more easy, for it may be added to the vegetable soup. Occasionally this vegetable soup causes edema; then it must be stopped.

Pasteurized Milk.

Hippeus (*Jahrbuch für Kinderheilkunde*, 61) finds from his experiments (1) that the milk does not lose its specific power of producing lactoserum by pasteurizing it; (2) that the bactericidal power of milk is inhibited by heating it to 60°-65° C. continuously,

as also by a short heating at 85° C.; (3) the oxidizing ferment of milk is destroyed at 76° C., though continued temperatures of 60°-65° C. do not affect it; (4) the lipolytic ferment withstands a temperature of 60°-65° C., though at 74° it is destroyed; (5) the proteolytic ferments are as active in pasteurized milk as they are in raw milk; (6) the amylolytic ferment of human milk withstands a temperature of 60°-65° C., but is destroyed at 76° C. The author concludes that prolonged pasteurization of milk does not change it chemically—*i.e.*, the biological properties are able to withstand a temperature of 60° C.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Psoriasis.

Dr. Dreuw, assistant at Unna's clinic, Altona, Germany, reports (*Journal of the American Medical Association*, June 10, 1905) that he has used with great success the following ointment, the formula of which was first published by him in 1903, in the treatment of psoriasis:

℞ Acid. salicylici .....3ijss (10).
Chrysarobin,
Ol. rusci (birch tar) .....ää 3v (20).
Sapo virid.,
Vaselini .....ää 3vjss (25).

This combination contains, he says, keratolytic-reducing as well as macerating and antipsoriatic remedies in rather large doses. His method of using it is as follows: For from four to six days the ointment is applied by the aid of a stiff brush to the affected area (after this has dried somewhat it is well to apply a starch or zinc powder). On the fifth or sixth day the patient starts taking hot baths daily for from one to three days, and after the bath vaselin is to be well rubbed in from one to three times a day. This treatment, which covers eight days, may be repeated several times according to the severity of the disease, but as a rule the psoriasis patches disappear soon after the first treatment. The ointment causes a marked scaling of the entire plaque, and the black crusts which become closely adherent after five or six days' treatment gradually loosen after a few days of bathing and inunction with vaselin or with zinc sulphur ointment. The application of this ointment causes an intense feeling wherever psoriasis exists, and Dreuw considers it an indicator

of areas of psoriasis. It also limits the chrysarobin irritation exclusively to the diseased area, and causes no diffuse staining. For the best effects the solid constituents of this ointment must be thoroughly rubbed together. For prolonged use with this ointment he has prepared a material called mull, and finds it practically unirritating.

The use of these preparations is not limited to psoriasis, but they can be employed in other conditions where a special macerating effect is desired with the smallest possible amount of irritation. He has used it thus in trichophytosis and in local circumscribed eczema. It can be kept on six or eight days, after which any mild ointment may be applied.

Some New Remedies in Eczema.

L. Mayer (*Edinburgh Medical Journal,* July, 1905) relates his experience of some new remedies in eczema. Lenigallol, a triacetate of pyrogallic acid, he finds, except in very obstinate forms, as perhaps that attacking the palms, remarkably effective in converting a moist eczema into a slightly reddened, scarcely itching, and moderately scaly condition of skin, in the course of from two to six days. One commences with a vaselin starch paste containing 10 per cent of lenigallol, but the proportion may soon be increased to 20 per cent. It is spread thickly on, then enveloped in wool and bandaged, or simply powdered. When renewed morning and evening the coating is first softened with vaselin, and removed without friction. The skin becomes colored a blackish-brown, and this staining gives the best indication of the extent of the disease. He has not observed any irritation following its use. When this stage of dry scaliness is reached, a basis for the employment of tarry preparations is formed.

Thigenol is sometimes valuable as an introduction to the pure tars. This is a substitute for ichthyol, which, like it, contains sulphur intimately combined and possesses antiseptic and absorption-favoring properties. It may be used as a 20-per-cent paste or ointment. Or empyroform, a happy conjunction of oleum rusci and formaldehyde, may be made use of. It suits best as a thick lotion: Empyroformi, 15; talci, glycerini, ää 10; aq. destil., 20. This is non-irritating, and at the same time rapidly removes the last traces of itching. When such preliminary substances have been used for a time, we may proceed to the tar treatment proper. For this, as a mild and satisfactory drug, he recommends anthrasol, which is colorless, has but little tendency

to irritate, and almost no odor. It may be applied as a 10-per-cent zinc vaselin paste, or dissolved in olive oil in from 10 to 30 per cent. At the same time it is well to be cautious, in washing with water, to select only superfatted soaps of good quality, and to prohibit friction. As a sequence of scratching and varicosity ulcers difficult to heal are apt to develop near the malleolus. The applications should be desiccating and disinfecting, and of these tannoform dusted on seems best to restrict microbic proliferation. If any oozing points are powdered over, and a cheese-cloth bandage carefully adjusted, complete healing occurs under a hard, dry scab.

THE PRESENT STATUS OF ROENTGEN RAY THERAPY IN DERMATOLOGY.

T. H. Conroe (*American Medicine*, June 17, 1905) says radiotherapy must not be considered a panacea. Although it has a large field of usefulness it also has its limitations and dangers. Most consistently good results are obtained in epithelioma, rodent ulcer, and acne. Great benefit may be looked for in eczema, chiefly the vesicular variety affecting the hands, sycosis, tinea tonsurans, verruca, lichen planus, nevi and port-wine marks, localized pruritus, favus, etc. Deep-seated epitheliomas with the exposure of bone, cartilage, etc., appear to do well for a while, but usually get worse eventually. The judicious combination of radiotherapy and operation is highly recommended in these cases. The Roentgen rays are beneficial when pain particularly is to be avoided, as in old, feeble people. Radiotherapy produces the best cosmetic results. Recurrences after radiotherapy are less frequent than after other methods, and are more amenable to reapplication of the rays. The high-vacuum tube is preferable in epithelioma, rodent ulcer, and lupus; the medium and soft tube being employed in other cases. Radiotherapeutic treatment should be instituted as soon as possible, the result usually being in direct proportion to this factor. Epithelioma of the skin usually reacts better than that involving the mucous membranes. Tampering with caustics and other irrational forms of treatment are to be condemned as measures preceding radiotherapy, since they undoubtedly unfavorably alter the prognosis in such cases. No rule can be laid down for the prevention of burns, etc., hence the dosage must be carefully regulated in each individual case. No protective powders, ointments, etc., must remain on the parts treated since they may prohibit or lessen the effect of the rays by interfering with their passage.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
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Attending Neurologist to Harper Hospital.

Some Minor or Border-line Psychoses of Alcoholism.

In the *Journal of the American Medical Association* of March 18, 1905, Dr. Frank Parsons Norbury, after a consideration of this subject and the citation of two cases in point, concludes as follows:

"Treatment is successful in the majority of cases where the individual coöperates and learns his limitation. From a study of several hundred cases of minor psychoses of alcoholism, including the 'polyneuritis psychoses,' marked by amnesia, paramnesia, and confusion with marked hallucinations, I am led to the following conclusions regarding these mental disorders: (1) They are rare in acute alcoholism, but may appear in adolescents of neurotic type. (2) They are more frequent after adolescence and up to forty or forty-five years of age. (3) They occur both in continuous drinkers and in periodic delinquents. (4) The prognosis is variable, depending on inherited frailties and moral developments. (5) Early treatment is advisable as a preventive of major psychoses. (6) Treatment is successful in the majority of cases, providing we have the earnest coöperation of the patients and can have them under our immediate care for a protracted period. (7) Such cases should be distinguished from ordinary chronic alcoholics and should be treated from the standpoint of mental disease.

Some Uncommon Forms of Multiple Neuritis.

Writing for the *Journal of the American Medical Association* (Feb. 25, 1905), Wharton Sinkler cites several of the causes of multiple neuritis, viz., alcohol as the most common, this variety being most common in those of sedentary habits, notably women. Coal-gas poisoning is another frequent cause, such poisoning being often followed by a severe neuritis of sensory type, and very obstinate in resisting treatment.

An increasingly frequent cause is carbon disulphide. The metals, especially lead, are well known as frequent producers of neuritis. Arsenical neuritis is comparatively well known: Dr. Sinkler has seen a few cases resulting from the use of Fowler's solution internally, and he cites such a case, which recovered

under treatment. Two cases are then given of neuritis following labor, the first following an uncomplicated labor, the second following a septic case.

Cases 4 and 5 are those of neuritis following abortion. In all of these puerperal cases recovery was partial, some loss of use of the muscles of the lower extremities still persisting.

GYNECOLOGY AND OBSTETRICS.

Appendicitis in Pregnancy.

D. Shoemaker (*British Medical Journal*, July 22, 1905), in a discussion on this subject before the Netherlands Gynecological Society, stated that he had attended 150 cases of appendicitis; 80 of these were in female patients, and in two the patient was pregnant. Both these cases fared badly. The first patient had symptoms of appendicitis in the fifth month; five days after the first attack of pain, as a relapse occurred, Shoemaker operated. He opened a large abscess near the appendix; the patient died of sepsis. The second patient had also been ill for five days before he was called in; her general condition was very bad. He removed a gangrenous appendix; there was a small abscess connected with it. The patient aborted, and then a retrouterine abscess developed and opened into the rectum. Convalescence was slow. Pompevan Merdervoort twice removed the appendix for habitual abortion. There was difference of opinion about the treatment of appendicitis in pregnant women. Treub held that the fact of pregnancy did not call for operative interference where surgical indications were absent.

Is Craniotomy on the Living Child Ever Justifiable?

I. Marx (*Medical Record*, June 10, 1905) says that this title resolves itself into a question of the merits of craniotomy versus Cæsarian section or symphyseotomy, the advocates of the former theory being considered as conservatives, and those of the latter being classed among the radicals. Other things being equal, considerations of religion weighing strongly, and more often than not absolutely determining the result, Marx always favors the mother as compared to the unknown fetus when asked to allow the mother to suffer an increased risk. His years of active experience among all classes, in and out of hospitals, have forced upon him the belief that only in rare cases is a Cæsarian section upon

a woman many hours in labor, after manifold efforts to deliver in the presence of a suffering fetus, to be considered as more conservative than a skilfully performed craniotomy. The sphere of craniotomy is limited, but it must and ought to be extended. The positive contraindication to the operation is furnished by absolute contraction of the pelvis either from bone approximation or through obstruction by a tumor mass. The treatment here should be early induction of abortion if the demand is made, or elective Cæsarian section at or near term. The absolute and relative indications for perforation are discussed, and the author urges the necessity for greater care on the part of practitioners to prevent the development of conditions which, if neglected early in the labor, may later on lead to complications demanding active intervention. Especially among private cases the field for perforations and allied operations is widening, and that of Cæsarian section is narrowing.

Ampullary Tubal Pregnancy with Torsion of the Pedicle.

E. Bidone (*British Gynecological Journal,* Feb., 1905) has reported a case which, as he could only find five similar ones recorded, he thought important from its rarity. There was a tumor at the left side of the pelvis, evidently formed from the dilated ampulla of the tube at the part corresponding to the isthmus; the pedicle was twisted rather more than one revolution to the left. The pavilion was obliterated, and the external surface of the fetal sac was roughened, but entire. There was no blood nor any residue of precedent effusion in the peritoneal cavity. The sac when opened showed marked turgidity of the veins, and in two places extravasation of blood within its wall corresponding to the tubal decidua. The fetus, from five to four months' development, had not been long dead, and was well preserved and fresh.

According to Bidone, the symptoms of torsion of the pedicle of a gravid tube are similar to, but more serious and explosive than, those associated with the torsion of an ovarian cyst.

In short, owing to the arrest of circulation in the gravid tube, alterations take place in its peritoneal investment, which soon lead to the formation of adhesions with the other visceræ, or with the parietal peritoneum, where it is in contact with the fetal sac, and the new vessels formed in these adhesions may in some measure contribute to the nourishment of the sac.

THE MEDICAL AGE

Vol. XXIII. DETROIT, SEPTEMBER 25, 1905. No. 18.

ORIGINAL CONTRIBUTIONS.

RECENT ADVANCES IN THE STUDY AND TREATMENT OF DILATATION AND CANCER OF THE STOMACH.

BY R. D. ASHER, M.D.

The diagnosis of carcinoma generally rests on two symptoms—the presence of a tumor in combination with cachexia; the latter may of course be due to a multitude of other causes, but where none such are evident, carcinoma should be suspected. A tumor, once detected, is a very positive sign that it is a cancer. However, mistakes may occur—for example, a tumor in the region of the pyloric valve may be owing simply to a benignant hypertrophy of the pylorus. It is egg-shaped and smooth in that case, while cancer is more apt to be irregular. Such distinctions, though, cannot always be made; one had better wait and watch developments. If symptoms of ulcer are observed and there is a surplus of hydrochloric acid, it is likely to be a pyloric hypertrophy development in consequence of an ulcer. There is a peculiar form of carcinoma that infiltrates the entire wall of the stomach, causing a diffuse, hard thickening, but no partial tumor, which is apt to be confounded with chronic indurative perigastritis, the result of chronic ulcer. Here all the layers of the stomach wall are gradually drawn into a process of chronic inflammation, leading to the production of interstitial tissue and to circumscribed chronic peritonitis, as soon as it attains the serosa. Although no individual symptom, except perhaps the vomiting of minute portions of blackish granular blood, is weighty enough to decide the alternation in favor of carcinoma, yet the combined evidence of all the features of a case generally enables us to arrive at a diagnosis.

The general symptoms of carcinoma are so extensive in their range that many physicians have regarded it as the outcome of

a general disease, possibly of an infectious nature, but bacteriological and other research has not so far supported this theory. In carcinoma, as well as in sarcoma, a great increase in the number of the white corpuscles of the blood is found as a rule, while there is no increase in ulcer. This cachectic leucocytosis presents the peculiarity of diminishing during digestion. The influence of carcinoma on metabolism evinces itself by increased combustion of albuminous material; an abnormal amount of nitrogen is eliminated from the system, furnished by the destruction of tissue albumin, producing cachexia in spite of good nourishment. In doubtful cases the proof of increased metabolism is a strong confirmation of the presence of carcinoma; its absence, of course, does not go to prove anything. Diarrhea is frequent, owing probably to some toxic influence, and not to decomposed material entering the intestine.

Various paralyses may intervene, such as facial paralysis and hemiplegia, resembling uremic paralysis, and their prognosis is equally favorable. With a doubtful stomach complaint in the course of which some such paralysis occurs, we may infer that it is carcinoma. In extremely rare cases one comes across syphilitic tumor of the stomach, where the appearance is entirely that of cancer, and the patients succumb, owing to the diagnosis not being made. I have witnessed such cases, and they have left such an impression on my mind that I make it a rule to give potassium iodide for every supposed carcinoma, for it may prove the means of saving life.

It is a vital question whether cancer can be diagnosed where no tumor is felt. I believe there is no hope excepting by surgical procedure, and the success of the operation is dependent on the growth being small and circumscribed—on the diagnosis being established before the tumor has grown large enough to be palpable, for once the tumor is readily felt it is generally too late for an operation. The essential thing, therefore, is an early diagnosis. Long-continued dyspepsia in subjects beyond the age of forty to forty-five years is suspicious; for while it may be due to a host of other causes our endeavor must be directed toward removing all such possible reasons; and if after a six weeks' treatment the dyspepsia persists without assignable cause and the patient continues losing flesh, then our previous suspicion almost ripens into conviction. Recognition of a small pyloric tumor by the touch is rendered next to impossible owing to the deep situation of the part; it is only when the pylorus has been carried forward by a dilated stomach that it is within reach. A tumor

situated in the hinder wall of the organ, a frequent occurrence, may escape detection. Some further help is afforded now by chemical examination. The absence of hydrochloric acid is no convincing proof; the same must be said of the presence of lactic acid, since both may occur in other affections; but when both of these signs are observed in connection with the symptoms above detailed, then the diagnosis may generally be considered sufficiently safe to warrant an operation. The chances are nine to one that cancer will be found, and perhaps cured, the operation being made at an early stage, while the new growth is yet small and there are no metastases; whereas, on the other hand, if cancer is not found the operation seldom proves dangerous, having been undertaken under favorable conditions—the strength not yet wasted.

Quenu in cases of gastric cancer affecting the pyloric region performs an exploratory laparotomy with the object of making out with precision the seat and nature of the disease, and of determining whether or not the new growth is amenable to a radical operation. If the pyloric cancer could not be directly attacked and removed by operation he would perform gastroenterostomy; but if, on the other hand, there were good prospects of removing the whole of the diseased structures he would also establish an anastomosis between the stomach and jejunum, and after an interval of from ten to fifteen days perform pylorectomy. The removal of the cancer of the pylorus in two stages presents, it is maintained, important advantages. In the first place, by a preliminary gastroenterostomy the duration of the subsequent operation of pylorectomy is much shortened; and in the second place, when the patient has been much enfeebled through inanition, the first operation permits of speedy renewal of vigor by nourishment, and consequently favors much resistance against the immediate results of the serious operation of gastrectomy. This authority has used Murphy's button, and recommends it. In one of his cases of gastric cancer, although he had had no previous experience of this appliance, he performed gastroenterostomy in less than twenty minutes, much of the time having been taken up in exploration of the tumor and its connections. The objections that have been made to its use he regards as theoretical rather than real and practical. The button can be expelled from the intestinal canal by the normal way, and in his own practice he has had no reason to suspect any subsequent contraction of the gastrojejunal fistula.

All cases of dilatation of the stomach come under one of two

heads, according to whether they are due to stenosis of the pyloric valve, or whether the pylorus is open. The former class of cases properly belong to the surgeon's sphere, and their prognosis varies according to the cause of stenosis. It is unfavorable in carcinoma. In cicatrization, after corrosion by ingested acids or alkalies, in ninety per cent a final cure has been obtained by the Heinecke-Mikulicz method of splitting the narrow portion lengthwise, with subsequent transverse union of the margins. Dilatation of the stomach without previous closure of the pylorus is brought about gradually, as a rule, by a long-continued habit of overloading the organ due to intemperate or careless living, or the quality of the food may be so poor as to necessitate the introduction of abnormal amounts, as in the Irish "potato stomach." The mucous coat loses its power of contraction; first there is hyperacidity; then anacidity sets in, permitting of fermentation in the stagnant masses, gases further distending the stomach. The passage of its contents into the intestine is rendered almost impossible, for two reasons: the height to which they have to be raised out of the baggy dependent organ, in order to arrive at the pylorus, is too great for the relaxed muscles; and secondly, the weight of this huge bag suspended by the pylorus and the adjoining part of the duodenum is apt to double up and render impassable the latter where its ligaments attach. If the stomach be not too much dilated, then after a certain quantity of water has had time to accumulate within, evacuation, by means of a copious vomit, takes place; this usually occurs every three or four days, and this type of vomiting is characteristic of the condition. It is more rarely that atonic dilatation comes on acutely as the result of one injudicious meal. A growing uneasiness is complained of, and in the course of a few weeks the organ may assume enormous proportions, just as it would do in acute stenosis of the pylorus. The prognosis is as favorable in the former case by internal treatment as in the latter by an operation, since in both instances the walls, and especially the muscles of the stomach, have not yet suffered permanent injury that would incapacitate them from recovering when afforded relief. I have had a case in which the stomach at first held six pints, and after a month of treatment held but two. Where dilatation has come on gradually, it is impossible to reduce the volume of the organ except by cutting away part of the wall, an attempt that has been made, but scarcely can be recommended as yet.

Though unable to cure these patients, yet we can prolong

their lives and render them very bearable by the stomach-tube, for by the stomach-tube we can remove the stagnant and decomposed contents, and thus relieve the stomach. A stout rubber tube with a rounded point and lateral apertures serves as pump by means of a rubber-ball aspirator. The process is very tedious the first time, for we may have to spend two hours pumping out the contents half a dozen times before the injected water comes out clear. Clean the stomach in the evening, as this gives the patient a good night's rest, and prevents decomposition in the meantime. Leube prefers the morning, recommending his patients, for obvious reasons, to lie on the right side during the night. After rinsing the stomach at any time a medicinal douche is applied as a stimulant. Its ingredient should be either sulphate of sodium or sodium chloride, according to whether the gastric juice contains hydrochloric acid in excess or none; both applied in weak solution just perceptible to the taste—at first every day, after the lapse of a fortnight or three weeks every other day, after about two months once a week, these periods varying in different cases. The patient or his family may easily be taught the use of and be trusted with the tube, used as follows: A large funnel of glass inserted in the outer end of the tube is held in one hand and filled by the other. By alternately raising and lowering this funnel the stomach is washed out, and the fluid is renewed until it comes out clear. This treatment should never be allowed to lapse. A very dilute lotion of permanganate of potassium may prove useful as an antifermentative.

As to diet, these patients should be well nourished; they must gain flesh. In all chronic diseases this must be our endeavor. Use dry food as far as practicable. A very rigorous diet, however, is not feasible except for a short period, whereas this treatment is to last as long as life itself; clear the patient's stomach every night, removing all the undigested remnants. Allow a good deal of milk, and in case of hyperacidity meat, otherwise fat and carbohydrates. Of medicines, nitrate of silver, bismuth, and bicarbonate of sodium are used for hyperacidity. Where acid is lacking one has to choose between sodium chloride and hydrochloric acid. The latter should be given during the period of digestion: four drops in a glass of water one hour after a meal, and then six and eight drops at intervals of half an hour. It is more rational, however, to substitute the sodium salt, which gives off its acid in the stomach and stimulates the secretion of the glands. This latter property is possessed in a yet higher degree by various stomachics. Preëminent among these is

strychnine, acting, as it does, both on the secretory and on the motor apparatus.

A tight belt worn at night while the stomach is empty is excellent combined with hydrotherapeutic action by using a hollow belt filled with water. Massage is decidely beneficial used in moderation, but excessive manipulations, especially where the gastric juice is hyperacid, may determine enteritis by forcing the contents of the stomach into the intestine. Electricity in the shape of strong faradic currents has been proved by experiments on dogs to rapidly evacuate the stomach; in the case of human beings weak currents are preferable, they being less trying to the patient. One of the poles is applied to the vertebral column, the other to the linea alba above the navel. There is no especial advantage in introducing one of the electrodes into the stomach filled with water, as suggested by Einhorn. Try cold douches applied to the abdomen.

In studying the chemical contents of the stomach, the first in order is hydrochloric acid; alone, despite the almost numberless theories that have been built upon it, its presence or absence is of no special diagnostic importance, and is certainly not pathognomonic of any affection or class of affections; it constitutes no definite sign of disease. Its diagnostic value comes from the combination of circumstances in which it is found increased or diminished, which in itself means very little, for either condition may exist without any organic affection of the stomach. Primary motor disturbances of the stomach disturb absorption and lead, under varying conditions, to differences of acidity that can scarcely be looked upon as more than functional. Hypersecretion may, by its action on terminal nerve-endings, lead to a relative lack of acidity. We know too little of the specific etiology of abnormal secretion in the stomach to make its varying conditions pathognomonic of any special pathological condition. Great variations in acidity occur without definite significance, and unless other symptoms accompany the condition they cannot be considered specially abnormal. Affections that have been considered to be so distinctly separated from each other by this very symptom of variation in gastric acidity, as gastric ulcer and carcinoma ventriculi, have a common ground in which distinction becomes impossible, if we are to judge simply from this symptom.

Over two per cent of hydrochloric acid is oftenest a sign of the presence of a gastric neurosis; it may be the manifestation of a benignant hypertrophy of the gastric glands, or may occur as the beginning of a chronic gastritis, so-called "chronic sour

stomach." Where there is found cachexia or considerable emaciation, with a tumor in the epigastrium and other symptoms pointing undoubtedly to cancer of the stomach, and with all this there is free hydrochloric acid present during the digestion of a test-meal, one may conclude that the cancer has originated in an ulcer. Gastric subacidity under one per cent of hydrochloric acid does not give so valuable a clue to the condition as does superacidity. Where constantly found, one must think of subacute or chronic gastritis; it may occur, however, in dilatation of the stomach, gastric atony, or where there is a reflux of bile from the duodenum for any reason. It often occurs in cases of beginning carcinoma, but at a time so early in the disease that there are no additional symptoms on which to found a justifiable diagnosis. Finally, subacidity may be present in ulcer of the stomach or of the duodenum.

"Inacidity," a name preferred by Boas to the hybrid compound, anacidity, or total absence of free HCl in the stomach contents, is the most frequent symptom of the advanced stage of chronic gastritis; it is also a frequent accompanying symptom of a gastric neurosis. The two conditions may, however, usually be differentiated by the fact that while in chronic gastritis the absence of HCl goes hand in hand with the absence of the ferments, pepsin and lab-ferment, in a neurosis these can usually be demonstrated.

The absence of free hydrochloric acid in gastric carcinoma is treated by Boas in three maxims:

"1. The presence of free HCl speaks against carcinoma, though of course only when other symptoms are lacking too. If there is an epigastric tumor, emaciation, and beginning cachexia, then it is of no significance.

"2. The absence of free HCl establishes the diagnosis of cancer if two of the classical symptoms of cancer, emaciation and tumor, are present. It makes the diagnosis of cancer extremely probable if, besides beginning cachexia, there are symptoms of stenosis of the pylorus running the clinical course that a cancer in this region usually does.

"3. For the differential diagnosis of gastric ulcer from cancer, the presence of free HCl where no tumor can be discovered speaks for ulcer, while the failure to find free HCl is against the diagnosis of ulcer."

With normal acidity—that is, free hydrochloric acid between one and two per cent—there is usually no tissue change in the stomach, and in general no affection of the stomach itself. Diges-

tive symptoms, often severe, may accompany almost any internal affection, and in such cases the demonstration of the normal acidity of the stomach is of great practical importance in the question of rational diagnosis and therapeutics; where, however, all the symptoms point to gastric trouble, then normal acidity means the presence of a gastric neurosis. Nervous dyspepsia and chronic glandular gastritis are often extremely difficult to differentiate by any other means than the test of the acidity of the stomach contents. Varying gastric acidity may be noted, so that there may be in successive tests superacidity, subacidity, and inacidity. One or two tests should not then be considered to give the true condition of the stomach contents, and only the constant presence of a particular phenomenon can be counted on for diagnostic purposes. The very variableness constitutes, however, a symptom of gastric neurosis or of a beginning gastritis, though it has been reported in carcinoma.

Lactic acid in the stomach contents is introduced from without or formed within the stomach; sour milk or buttermilk contains a good deal of lactic acid, but so does fresh meat, especially muscle and the large glands, liver, lungs, spleen, pancreas, etc., while lactic acid is formed within the stomach by fermentation of carbohydrates. Certain fungi split these up, with the production of lactic acid, among other things. It is "lactic acid from fermentation" that concerns us particularly, and it may be distinguished from the lactic acid of fresh meat by the fact that it is optically inactive, while that of meat is optically active, but as a rule the differentiation is not sufficiently easy and sure for practical purposes. Be sure that no lactic acid has been introduced with the food. For this reason the original test-meal of Leube and Rugel, which contained flesh, had to be abandoned as impractical, the distinction between the two varieties of lactic acid being so difficult that it could not be carried out in practice. Breads contain lactic acid, so that the simpler test-meal suggested by Ewald and others is unsuitable where exact tests of the formation of lactic acid in the stomach by fermentation are to be made. For this purpose the only proper test-meal is one composed solely of some meal soup. Where gastric stagnation exists, if a liter or so of barley or oatmeal gruel, seasoned only with a little salt, be taken in the evening, and then the stomach contents tested for lactic acid next morning, the results of the test are reliable, for lactic acid appears as the consequence of stagnation of the gastric contents, not three to four hours but ten to fifteen being necessary for its formation. At the end of

this time no free hydrochloric acid exists in the stomach, so that the two are not found together; an examination of the stomach contents almost immediately after a meal might show the presence of both because of the lactic acid in the meat, but not otherwise.

According to Boas the simplest and most practical test for lactic acid is Uffelman's reaction with iron chloride. The accuracy and trustworthiness of this test has given rise to much discussion, but I consider it, under proper precautions, the most practical one yet suggested; for this test the iron chloride solution should be extremely dilute, about one drop of iron chloride to fifty cubic centimeters of water, so that there is just the faintest suspicion of a yellow color. The test solution should then be divided in two test-tubes, one of which is kept for control color comparisons. To the other test-tube a small quantity of the carefully filtered contents is to be added. If lactic acid is present, a very characteristic lemon-yellow color develops, which once seen is easily recognized again. Take some of the stomach contents and add it to the diluted iron chloride solution, and the lemon color is at once developed. Comparison with the liquid in the other test-tube shows how striking is the color reaction; if, instead of lactic acid, free HCl were present here, the color would be a yellowish-brown. Take some of the filtered gastric contents of a patient with a dyspeptic neurosis of not very advanced type and add it to a third test-tube containing iron chloride solution, and you see this brownish-yellow color. The characteristic colors of the three solutions are not hard to distinguish from each other.

Lactic acid in the stomach contents has no mystic meaning, and, much as has been claimed for it in the past, it is not of itself pathognomonic of any condition; originally it was hoped that it was going to prove an absolutely pathognomonic symptom of cancer, but unfortunately hopes have not been fulfilled. Although lactic acid has lost its pathognomonic significance in cancer cases, it still remains the surest symptom where no tumor is palpable. Where only absence of HCl is noted the case remains extremely doubtful unless other symptoms are present, but where there is also noted the presence of lactic acid, then there is more than a strong suspicion of the presence of cancer, for the early diagnosis of gastric cancer is not possible. The development of cancer nodules in their first stage, when operation would be so favorable, gives either no symptoms or no characteristic ones; it is surprising how far the process has gone

before patients consult a physician. When early symptoms are complained of, they are often of the most ordinary kind—slight dyspepsia, for which they go to their family physician, often half-apologetically. The originary acid pepsin treatment is prescribed, often with marked relief to the symptoms; the cancer causes a functional disturbance of gastric secretion, and this treatment supplies materials for digestion that are diminished or absent. After three or four weeks, perhaps longer, the condition becomes worse, and the realization comes that something more than a passing functional disturbance is at work; then often the operation is too late, for extensive infiltration with granular involvement has taken place. It is not that we cannot diagnose carcinoma ventriculi when it gives symptoms of its presence, for the slightest sign will often put the modern diagnostician on the track, as the cases in the recent literature of the subject show, but too often it remains absolutely latent during all the time when operative measures are indicated, and likely to be successful.

PERIODIC AUTUMNAL CATARRH: VASOMOTOR CORYZA: THE SO-CALLED HAY-ASTHMA.

BY C. C. MAPES, LOUISVILLE, KENTUCKY.

The earliest ascertainable accurate description of periodic autumnal coryza as a malady *sui generis* appears to be from the pen of Bostock (1819)[1] who gave it the appellation of *catarrhus æstivus.* In a later contribution the same author incidentally termed the disorder "hay" fever, a pseudonym which was immediately adopted under the supposition that the pollen of weeds or grasses was the immediate etiological factor.

The teachings of Bostock were followed by Gordon (1829), Elliotson (1839), Wyman (1854), Moore, Smith, Perry, *et al.* (1859), and in 1873 Blackley wrote an elaborate monograph on the subject in which he dogmatically asserted that the disease depended for its source upon the ripening of the Graminaceæ; thus the title erroneously and unintentionally bestowed by Bostock was perpetuated.

One of the writers mentioned (Elliotson) believed the offending growth was the *Anthoxanthum odoratum,* basing his views upon the fact that it flowered about the time "hay" fever manifested itself; others ascribed it to the *Anthemis macula,* and elaborate arguments were offered in substantiation thereof.

[1] Medico-Chirurgical Transactions of Great Britain.

The *Ambrosia artemisiæfolia, Bellis perennis, Lotium perenne, Holcus odoratus, Zea mays, Linum usitatissimum, Panicum miliaceum, Chenopodium album, Polygonum hydropiper*, the *Rosaceæ*, and (in India) the *Mangifera Indica*, singly and collectively, have also been accused by different writers; likewise the odors of various other substances have been held accountable, *e.g.*, Cullen mentions a case in which the most intense agony was induced by the vicinity of a rice-threshing floor, regardless of the period of the year at which the grain was separated from the husk; Watson refers to a case due to the odor of ipecac; Smith records instances provoked by linseed meal and also mustard; Murrell by powdered colocynth, the effluvia of a clean handkerchief fresh from the ironing-table, locust-tree blossoms, mulberry blossoms and fruit, etc.; Ringer by the exhalations from monkeys, dogs, cats, horses, rabbits, guinea-pigs, cattle, and wild animals. Other observers record similar results from the down of rose petals or leaves, the "fuzz" from the skin of peaches, the rind of muskmelon, etc.; likewise the dust from railway trains, old books, carpets, cloth, and many other substances.

There have been numerous other theories promulgated to account for periodic autumnal coryza, but in the light of impartial consideration and actual application they remain but ingenious theoretical propositions incapable of scientific explanation or adequate understanding. For instance Cutter[2] advanced the theory that hay-fever (so-called) is a variety of asthma, or "gravel of the lungs." While in a certain percentage of cases asthma is one of the most distressing and persistent accompaniments, in the larger number it is not concomitant; and inasmuch as asthma has a recognized entity as a disorder *sui generis*, the statement of Cutter is not only unproven but misleading.

Clark[3] emphasized the doctrine that the evolution of vasomotor coryza embodies three great factors: (1) A nervous constitution or idiosyncrasy, sometimes inherited, sometimes acquired; (2) a local condition of irritability, involving the nervous, vascular, and cellular constituents of the affected parts, and which, when excited, disturbs the chemical, morphological, and secretory changes taking place therein; (3) external, exciting or determining causes—*i.e.*, the agents which are capable of calling into action the irritability of the parts concerned.

The fact must be borne in mind, *en passant*, that many of the

[2] Medical Age.
[3] *British Medical Journal.*

conditions denominated periodic autumnal catarrh (hay-fever and hay-asthma) do not really belong to the class to which these terms are intended to apply, that they are dependent upon abnormal growths and hypertrophy or thickening of the mucous lining of the throat and nasal cavities—conditions easily removed, and whose removal prevents further accessions of the paroxysms. Polypoid growths, for example, tend notably to the production of asthma and other conditions which precisely resemble those induced by autumnal catarrh; indeed, many of the more common asthmatic and bronchial affections arise from conditions no way pertinent, in fact grossly irrelevant, to hay-fever, so-called.

Liefman[4] examined the air to determine the prevalence of pollen, and also to ascertain whether the amount was sufficient to produce the symptoms of hay-fever. The amount was determined by gathering the pollen on glass plates, then counting the individual grains, also by determining the number in a given amount of air. These experiments were influenced by climatic changes and environment. The author found that the amount of pollen in the air was sufficient to cause the symptoms of hay-fever, and states that the occurrence of the disease is simultaneous with the appearance of the pollen in the air.

In the light of present knowledge the deduction seems justified that the etiology of the distressing malady popularly and erroneously denominated hay-fever is still submerged in hopeless obscurity, since neither the critical inquiry of the versatile clinician, the keen visual acumen of the expert microscopist, nor the persistent and painstaking search of the erudite necroscopist has yet been rewarded by the discovery, isolation, and adequate description of the true *fons et origo mali.* Judged by the most reliable and trustworthy information obtainable—*i.e.,* logical conclusions based upon experience and observation—the only warrantable suggestions are: (1) That the underlying or predisposing fundamental prerequisite is always a neurosis; (2) a personal idiosyncrasy; and (3) an irritating (perhaps an infective) principle or actual determining causative factor, and therefore that so-called hay-fever is an idiosyncratic paroxysmal malady, primarily and essentially of neurotic origin, which may be induced directly or reflexly in the presence of the originating factors delineated; but present knowledge is insufficient to permit of adequate further elucidation.

Concerning the pathological characteristics and symptomatology of periodic autumnal coryza little need be said. This

[4] *Zeitschrift für Infectionskrank.*

much, however, must necessarily be recognized: In the presence of the primary requisite, viz., a neurotic or idiosyncratic tendency, when local irritability is provoked into action, there arise series of local structural changes which are characteristic of the onslaught of the malady; the erectile tissues of the nasal passages and posterior throat become distended; the blood-vessels are gorged; groups of lymph cells fill the lymphatic spaces; the mucous surfaces are crowded with migrating leucocytes; younger epithelial cells are vacuolating and proliferating; secretion; sensation is heightened, intensified, altered, or benumbed, and the whole metabolism of the affected region profoundly disordered.

The onset is usually quite characteristic, the attack recurs at the same time each year, the average being about the middle of August, though the period of development may be earlier or later. There is first experienced an intense itching sensation of the mucous membrane of the eyes, the upper throat, and nostrils, accompanied by inordinate and most comprehensive sternutations, often without apparent cause, though seemingly frequently provoked by a bright light, cool current of air, or any trifling exposure. At first the paroxysms are infrequent and of moderate severity, but soon the intervals between the accessions are markedly shortened and the manifestations progressively increase in violence. The attacks of sneezing are prolonged, but unaccompanied by the grateful sense of relief which ordinarily attends such manifestations; exertion apparently intensifies the paroxysms and the feeling of discomfort induced; there is slight acceleration of the pulse and some febrile excitement. After a week or ten days symptoms of bronchial irritation supervene, with dryness and injection of the throat; the chest becomes sore and painful. The bronchial manifestations exhibited may be decidedly inconstant even in the same individual at different times. The duration of a typical attack may be from three to eight weeks, with or without treatment. After disappearance of the coryza an exasperating bronchial cough may persist for weeks or months.

The most serious attacks are those in which asthma is the predominant manifestation. In these cases the advent of cough is accompanied by asthmatic symptoms of greater or less severity, beside which every other discomfort palls; indeed, more harrowing asthmatic manifestations than sometimes accompany this malady are rarely or never witnessed. Those who have never seen or experienced these paroxysms can have no adequate idea of their severity. It is impossible for the sufferer to find any

position of comfort or relief; he cannot lie upon his back, or even recline in an easy chair; whenever overtaken by the paroxysm, whether sitting or standing, he seeks a firm object on which to lean his elbows, and gasps for breath; while nearly overcome by exhaustion the struggles to secure the desired supply of oxygen are unrelaxed, since they are for the most part involuntary. This may last for a period varying from a few minutes to hours, and relief is only obtained when the "wheezing sounds" again assert themselves, being accompanied by less hurried respiration and mitigation of the feeling of impending suffocation. At the inception of such an attack there is always manifest difficulty in breathing, accompanied by true asthmatic gurglings or râles; exploration of the chest by percussion reveals only increased resonance indicative of the presence of air in the intercellular lung tissue, while the ear detects dry, cooing, sibilant murmurs; these sounds are frequently clearly audible at considerable distance, and are greatly intensified upon the approach of a paroxysm, of which, in connection with increased difficulty in breathing, they give warning.

The most important consideration in this connection is the rational treatment of periodic autumnal coryza. Certain specialists and other observers[5] have endeavored to maintain the dictum that some nasal abnormality, disease, or deformity is always present which acts as an incentive to the attack. If this theory were true then the treatment would be exceedingly simple—*i.e.*, to institute appropriate measures for ultimate cure of the predisposing nasal disease or deformity; but the test of actual experience proves that the statements of these authors are erroneous, since in the majority of instances no other nasal abnormality has been found to antedate or accompany periodic autumnal coryza. Based upon the erroneous premise that there existed some deformity of the nasal passages, specialists have not infrequently instituted supposed corrective measures which have resulted disastrously, *e.g.*, more than one sufferer from periodic coryza has had occasion to bewail the loss of the special sense of smell owing to such unwarranted operative intervention, and without any definite mitigation of his malady. In making this statement, however, the writer is not unmindful of the fact that there have been instances in which cauterization or excision of the sensitive areas of the nasal passages has been of decided benefit, though that such treatment is not only generally inap-

[5]Notably Roe, Bosworth, Sajous, Barnhill, *et al.*

plicable but unwarranted and unwise results most amply demonstrate.

Repeated cauterization of the nasal mucous membrane, either by means of actual cautery or the various acids, was at one time considered the treatment *par excellence*, but has rightly been discontinued, except by a certain few operators, who have persistently refused all opportunities of enlightenment.

The preparations and combinations recommended for internal administration in the treatment of autumnal coryza would fill a volume if we were but to enumerate and describe them. One homeopathic writer claims that the "third trituration of succinic acid" is a specific in vasomotor coryza; a second advocates *Aralia racemosa,* and another says there is nothing equal to sabadilla.

Mounier[6] thinks periodic coryza is often the result of auto-intoxication, and the treatment should be mainly dietetic in character with administration of strychnine and benzonaphthol.

A combination containing heroin, atropine sulphate, caffeine citrate, and salophen is recommended by Wetherby[7] with the assurance of immediate relief.

Aulde[8] advocates strychnine arsenite together with (his famous) nuclein solution, and reports several cases to illustrate the beneficial effects of such treatment.

The administration of acid phosphate, morphine, atropine, the salicylates, salicin, lithium salts, etc., with elimination from the dietary of such articles as are thought to increase the formation of uric acid, is a plan of treatment accredited to Bishop,[9] and which is followed by others who believe the condition is one of uricacidemia.

The local and internal use of quinine is too familiar to require extended specification. It has been extensively employed in both ways by numerous observers with varying results. Fulton[10] advocates a saturated solution of quinine sulphate in sterilized water as a nasal spray to be used two or three times a day, and local application every six hours of an ointment composed of quinine and vaselin in the proportion of thirty grains to the ounce. He says almost immediate relief can be promised by this method of treatment.

[6] *Berliner klin. Woch.*
[7] *Medical Council.*
[8] *American Therapist.*
[9] *The Laryngoscope.*
[10] *Medical Record.*

Fick[11] states he has found in aristol a means of curing all forms of nervous coryza, including hay-fever, when applied locally to the affected parts. He claims that the hypersecretion is localized in the antrum of Highmore, that the fluid naturally finds its way to the middle nasal fossa, and that six or seven applications (by insufflation) of the powder (aristol) to the antrum will usually effect a cure.

Parsons[12] deprecates the use of opium and cocaine, also advises abstention from tobacco and alcoholic stimulants. He recommends use of the suprarenal gland both internally and locally, the cold spinal douche for fifteen to thirty seconds, application of the ice-bag to the back of the neck kept in position for ten or fifteen minutes at a time; or cold plunge, shower, or cold sponging may be used. He says that these methods are advisable aside from general medical treatment.

In an excellent contribution on the causation and treatment of hay-asthma Barnhill[13] presents the opinions of several of the most eminent medical men in this country to show that the drug treatment of the disorder is most unsatisfactory—*e.g.*, Waters, Whitaker, Culbertson and Eichberg, of Ohio; Maxwell and Hadley, of Indiana; Marvin, of Kentucky; Chapoton, of Michigan; and Lyman, of Illinois—all of whom agree that hay-asthma is rarely if ever cured by the administration of drugs.

Quinine, iodine, atropine, the bromides, grindelia robusta, the synthetics, belladonna, stramonium, asafetida, valerianates of zinc and iron, potassium iodide, nitrite of sodium, hyoscine hydrobromate, calomel, lithium, the alkalies, salines, etc., are mentioned as being of possible service.

A series of medical prescriptions claiming to be more or less efficacious[14] recently appeared in print, and their reproduction may not be entirely devoid of interest:

1. A pill containing four grains each of acetanilid and monobromated camphor, and half a grain of extract of belladonna, given three times daily.

2. A teaspoonful of syrup hydriodic acid in water every four hours.

3. A pill composed of one grain each of valerianates of zinc, iron, and quinine, three to six times a day; the dose may be doubled if required.

4. Twenty grains of sodium bromide, two and a half minims

[11] *Therapeutische Monatshefte.*
[12] *Medical Record.*
[13] *Medicine.*
[14] *Medical Summary.*

of Fowler's solution, five minims of tincture belladonna, in syrup and water, three times daily.

Hall[15] suggests that one or two teaspoonfuls of the following mixture taken three times daily, either with or after meals, will usually afford relief to the discomforts incident to hay-fever:

Fowler's solution	90 minims.
Fluid extract nux vomica	90 minims.
Fluid extract cinchona (detannated)	90 minims.
Alcohol	6 drachms.
Syrup of orange, q. s. to make	4 ounces.

Of course it is recognized that theoretically the objects to be achieved by treatment are threefold: (1) The soothing and strengthening of the general nervous system; (2) the allaying of local irritability; (3) the removal of the exciting cause. The former two are, of course, chiefly palliative, while the latter (and to a certain extent the first may be conjoined) presuppose radical relief.

Constitutional treatment, as already indicated, is at best not curative and only palliative. The writer believes the most advantageous drug for internal administration is belladonna given in minute doses at frequent intervals, either alone or in suitable combination; the quantity, the frequency of administration, and whether alone or combined with other medicaments, of course can only be decided after careful study of individual idiosyncrasy and the conditions which present.

The last and most important desideratum is local treatment. Many substances have at various times been recommended for local use, *e.g.*, cocaine, brucine, menthol, thymol, eucalyptol, chloroform, bismuth, hydrastis, euthymol, hydrogen dioxide, sodium borate, iodine, oil of wintergreen, corrosive sublimate, witch-hazel, carbolic acid, alcohol, bicarbonate of soda, borax, camphor water, adrenalin chloride, *et al., ad infinitum,* singly, collectively, for application in the form of sprays, douches, powders, ointments, nasal tablets, inhalations, etc.

The following ointment applied to the mucous membrane by smearing it on small tampons of absorbent cotton is said to be beneficial:

Hydrochlorate of cocaine	3 grains.
Thymol	3 grains.
Subcarbonate of bismuth	2 ounces.
Vaselin	1 ounce.

Smith[16] says he has never observed a case of hay-fever in

[15] *Buffalo Medical and Surgical Journal.*
[16] *Medical Record.*

which the following combination did not give almost instant relief:

Mentholis	20 grains.
Olei amyg. dulcis	2 drachms.
Acidi carbolici	10 minims.
Cocaine hydrochlor	6 grains.
Ung. zinci oxidi	½ ounce.

Sig.: Apply thoroughly to the nostrils on cotton attached to a toothpick.

Where it seems advisable for any reason to attempt palliation by means of an inhalant, the following is said to have been found effective:

Menthol	8 grains.
Chloroform	5 minims.
Benzol	20 minims.
Oil cassia	3 minims.
Light carbonate of magnesium	20 grains.
Water, q. s. to make	1 ounce.

Pour a teaspoonful of this mixture into a pint of hot water and inhale the vapor slowly for ten or fifteen minutes.

A favorite powder for insufflation into the nostrils, when this method of treatment seems indicated, is the following:

Powdered boric acid	30 grains.
Salicylate of sodium	40 grains.
Hydrochlorate of cocaine	3 grains.

Combinations containing menthol, naphthaline, camphor, salicylate of bismuth, sugar of milk, etc., may also be used with benefit.

Bishop[17] claims that hay-fever patients derive much benefit from the home treatment with a mild spray of camphor-menthol in lanolin, one- to three-per-cent solution, that this preparation cleanses, covers, and protects the mucous membrane, that it contracts the capillary blood-vessels, reduces swelling, arrests sneezing and irritation, checks excessive discharges, and corrects perverted secretions. Even a ten-per-cent solution can be used without ill effect.

To describe in detail the *modus operandi* of combination and application of the many additional remedies recommended for local use would unduly prolong this dissertation, but the writer desires to consider one other agent *in extenso,* viz., adrenalin.* This product may be used as a spray (1:5000 or 1:10,000), applied on absorbent cotton (1:1000), in the form of ointment, as an inhalant. It is also said to be effective when administered hypodermically and internally.

[17] *The Laryngoscope.*

*Note.—The writer believes adrenalin is much superior to the combinations cited, though some of them are highly recommended.—C. C. M.

This agent is believed to be justly entitled to specific favorable mention by virtue of the fact that in the experience of the writer (who has for many years been an exquisite sufferer from periodic autumnal coryza) it constitutes the most efficacious local application at present known; indeed, it is the *sine qua non* in the management of the distressing malady under consideration. This statement is frankly made after suffering keen disappointment in extended trials of other medicaments, ancient and modern, ethical and empirical, singly, collectively, and otherwise.

Adrenalin appears effective it matters not particularly what may be the method of its administration, but it is more often than otherwise employed as a spray or applied on a pledget of absorbent cotton. The application may be repeated *ad libitum* without apparent deleterious effect, but more than three or four times in the twenty-four hours will rarely be found necessary. It brings about a speedy restoration, so to speak, of vasomotor equilibrium; its action on the engorged vessels quickly relieves the existing turgescence; and the distressing symptoms of itching, dyspnea, coryza, etc., promptly disappear. The writer has had no experience in either the internal or hypodermic administration of adrenalin for the relief of autumnal coryza—local application of this agent in conjunction with small doses of belladonna internally having been found satisfactory—but it has been highly recommended for internal use by different authors; and the suggestion has been made (Bullowa, Kaplan, *et al.*) that it may be successfully employed hypodermically in the treatment of asthma and allied conditions. The ideal method of administration would appear to be inhalation of the vapor from an oily solution, but it is said to have been only partially effective in some instances when so used, perhaps because of lack of thoroughness, or through misunderstanding or neglect on the part of the patient as to the correct *modus operandi*.

Gleason[18] says as an astringent to the mucous membrane of the nose the extract of suprarenal capsules, or its newly discovered alkaloid, adrenalin, is the most powerful known. The alkaloid is active in 1 to 10,000 parts of water, and within sixty seconds after its application blanches the nasal mucous membrane to a creamy white; also that adrenalin 1 to 5000, or the ten-per-cent watery extract of dried suprarenal capsule, applied to the nasal mucous membrane every two hours,[19] either as a

[18] *Therapeutic Gazette.*

[19] The application of adrenalin has not been found necessary as frequently as every two hours in any case that has come to the writer's notice.—C. C. M.

spray or by means of a pledget of absorbent cotton saturated with the solution and placed within the nose, furnishes the best local treatment of such diseases as hay-fever and nasal hydrorrhea.

Clark[20] states that better than the desiccated suprarenal is a solution of adrenalin chloride, which may be used as strong as 1 to 1000, but is often efficient in the moderate strength of 1 to 5000 or 1 to 10,000; and Wilson says for temporary relief in hay-fever it has no equal, and it causes less irritation than the solutions of the suprarenal gland.

A recent writer[21] claims that there is increasing evidence that adrenalin fully meets the indications as a remedial agent in hay-fever, that it controls the nasal discharge, allays congestion of the mucous membrane, and thus reduces the swelling of the turbinal tissues. As the nasal obstruction disappears, natural breathing is materially aided, and the inordinate desire to sneeze is mitigated. The application of this agent is followed by a feeling of comparative comfort; it blanches the mucous membrane by contracting the capillaries; it strengthens the heart and overcomes the malaise which is often a prominent feature. Adrenalin in the treatment of hay-fever should be diluted by the addition of four parts of normal salt solution and used in the form of a spray, or the full-strength solution may be applied on a pledget of cotton. The same author says, on the theory that hay-fever is a neurosis accompanied by a vasomotor paresis, adrenalin is indicated internally, given in five- to ten-drop doses ten days to two weeks before the expected attack. (As already stated, the writer has had no experience with this method of treatment.)

With adrenalin in its present manageable state[22] we may expect to make our hay-fever patient comfortable in one particular—*i.e.*, we will enable him to keep the nasal passages open, and we can also prevent his having red eyes. There is no question that it will afford relief by keeping the nasal passages open.

Lockard[23] says that if, immediately preceding an expected attack of hay-fever, the patient is nervous, which is quite common, he relies upon the quieting effect of chloretone, that for the nasal discomfort adrenalin chloride is a remedy of great power, that having no deleterious constitutional or local effect it can be used *ad libitum*, that under this treatment the intolerable itching

[20] *Boston Medical and Surgical Journal.*
[21] *Medical Bulletin.*
[22] Editorial, *American Practitioner and News.*
[23] *Boston Medical and Surgical Journal.*

disappears, the nose remains patulous, and the hydrorrhea vanishes.

This compilation would be incomplete without brief reference to the experiments which have been made along the lines of serum therapy, immunization, prophylactic measures, etc. According to MacCoy,[24] Dunbar isolated a protein substance from the pollen of rye, barley, and wheat, which when applied to the nasal mucous membrane and eyes of persons predisposed to hay-fever produces the subjective and objective symptoms of the disease, but when applied to individuals not so predisposed it elicits no morbid phenomena. He found that the pollen of roses, linden flowers, wormwood, and many other plants which are believed to give rise to hay-fever, produced no symptoms. Dunbar injected this protein substance into animals, and produced a serum which had distinct antitoxic properties. When mixed with equal parts of toxin it was found to neutralize the specific action of the poison, and when applied to individuals who had previously been treated with the toxin it caused the subjective symptoms to disappear, and after a few minutes there was amelioration of the objective signs. MacCoy refers to a series of fifteen cases treated according to the method of Dunbar, all typical cases of periodic hay-fever, and the result was so favorable, the effect so promptly manifested, the relief so complete, that it appeared marvelous! Dunbar's experiments comprise more than thirty tests.

Somers[25] also comments on Dunbar's experiments, and reports results in ten cases of hay-fever treated by means of goldenrod antitoxin. His conclusions based upon present experience are as follows:

1. The serum produces prompt and positive amelioration of the symptoms of fall hay-fever in the majority of cases.

2. In a smaller number this favorable result is soon accompanied with the complete disappearance of the affection.

3. Where slight or no action is seen after its use, pollen as an etiological factor does not predominate.

4. When results are obtained, it favorably influences all the manifestations of hay-fever.

5. While I am unable to state from a personal experience the effect of the serum upon hay-fever occurring at other times of the year, or its effect when administered in advance of the attack, yet when given during the attack irrespective of its severity it produces marked palliation rather than absolute cure.

[24] *New York Medical Journal.*
[25] *Medicine.*

6. Its effects upon future attacks remain as yet unknown.

7. The serum in powder form is slightly soothing to the nasal mucosa, has but little influence upon the other symptoms of the affection, and in occasional cases it may act as a direct irritant.

Curtis[26] thinks it possible to immunize persons against hay-fever, and states that he has record of several cases of goldenrod and lily-of-the-valley corasthma which have been cured by the *Solidago odora* and *Convallaria majalis* in three or four days; but he suggests also that this has no reference to ragweed, the king of pollens, whose cruel reign is only ended by the first frost. He says if his theory be correct that rhinitis vasomotor periodica, or corasthma ambrosia, may be prevented by giving two to ten drops of the tincture or fluid extract of *Ambrosia artemisiæfolia* three times a day in water, during the two weeks preceding the paroxysm, he will consider that he has heralded with becoming modesty what he believes to be a great discovery.

Burton[27] claims to be able to abort hay-fever by the local application of a solution of tincture belladonna in water, one or one and a half drachms to the ounce.

NOTE.—Many of the ideas presented in this paper were suggested by perusal of the contributions cited, and the writer desires that full credit therefor be extended to both authors and publishers. Some paragraphs are quoted almost verbatim, others abstracted and epitomized. The author especially wishes to acknowledge his indebtedness to the MEDICAL AGE, particularly a contribution thereto under the name (evidently a *nom de plume*) of "A Sufferer," from which numerous extracts have been made.—C. C. M.

SAYS an exchange: "The railway companies in Liverpool have found a certain cure for inebriety. They had arranged to run outward trains for drunkards the night of the bank holiday, but to their great surprise there were no drunkards, consequently no special trains were required. 'The premature publication of our intentions,' explained a railroad official, 'ruined our plans. The regular topers, who before could not be relied upon to travel home drunk, have been shamed into sobriety. The idea of being placed in a compartment with the other drunkards disgusted them, consequently they resolved to keep sober.' By a strange oversight the companies failed to provide a special drunkard train inward, and the consequence was that many men of Liverpool returned home after the day's holiday in a more or less helpless condition."

[26] *Medical News.*
[27] London Letter in *Therapeutic Gazette.*

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE MEDICAL PROFESSION ABROAD.

The medical profession of this country is more or less familiar with the troubles that beset it, but of how our brethren in foreign lands are faring comparatively little is known. A recent issue of the *British Medical Journal* is entirely taken up with a series of articles discussing the educational, social, and economic aspects of the profession in nearly every European country. It may tend to make the just man struggling with adversity—that spectacle deemed especially pleasing to the gods—more contented with his lot if he will look abroad, and compare it with that of his professional brethren in other countries. A large mass of authentic information that is interesting and useful has been gathered. In France, Germany, Austria, Hungary, Holland, Denmark, Italy, Spain, and Belgium, entrance to the profession is by one portal, and the real licensing body is the state. In most registration of the diploma which gives the right to practice is required. The rights of practitioners are virtually the same in all countries. Having complied with the conditions required of them in the way of qualification and registration, they are at liberty to practice their profession without hindrance, unless they come into collision with the law by some breach of its ordinances. In every country, apart from the medical services of the army and navy, there are many other public services, which offer fields more or less promising for the professional activity of practitioners. The chief of these are concerned with the preservation of the public health and the promotion of sanitation, general and local; the administration of charitable medical aid provided by the state or by the municipality.

Everywhere the financial situation is unsatisfactory. In most of the European countries a practitioner appears to be fairly well off if his professional earnings amount to $1200 to $2500 a year

In Austria, we are told, such an income means a good easy life, free from financial cares. The chief causes of the poor estate of the medical profession are the overcrowding which exists everywhere except in Portugal, and the abundant supply of gratuitous medical assistance by hospitals and the institutions of one kind or another maintained by the state. Everywhere the system of contract practice is one of the worst evils with which the profession has to contend. In all countries there are laws which prohibit medical practice by unqualified persons under more or less severe penalties, and everywhere the law is made virtually a dead letter by the inertness of the authorities entrusted with its administration and the indifference or active hostility of the public.

Although the profession is nowhere perfectly organized, almost everywhere associations have been formed for the protection of the interests of practitioners and for the provision of material aid in case of need. The social position of the profession, as a whole, appears to be lowest in Italy, where the doors of society are closed against a doctor unless he is of great eminence. In Hungary and Germany doctors are held in high esteem by the public; in Austria, though their standing is fairly good, it is not so high as it is in France or even in England; in Denmark the position of the doctor is between the minister and the judge; in Belgium a certain prestige still attaches to the profession. The countries in which the medical profession stands socially highest are Spain, where the doctors are the most enlightened class, and Portugal, where they are at the top of the social ladder.

While the profession in this country has much to complain of, it would seem from the conditions that exist abroad that we ought to be fairly well satisfied.

EDITORIAL NOTES.

A Declining Birth-Rate.

That race suicide in this country is really a condition and not a theory is shown by a bulletin recently issued by the Census Bureau, which states that there has been a steady decline in birth-rate in the United States since 1860. At the beginning of the last century children under ten constituted a third and at the end less than a fourth of the total population. The decrease in this proportion began as early as the decade 1810 to 1820, and continued uninterruptedly, though at varying rates, each successive

decade. Between 1850 and 1860 the proportion of children to women between fifteen and forty-nine, the child-bearing age, increased, but since 1860 it has constantly decreased. It is stated that the decrease has been very unequal from decade to decade, but that if the computation is made upon the basis of twenty-year periods it has been regular. In 1860 the number of children under five to 1000 women fifteen to forty-nine was 634; in 1900 it was only 474. The proportion of children to potential mothers in 1900 was only three-fourths as large as in 1880. Notwithstanding these facts brought out by the Census Bureau we need not fear but that enough children will be brought into the world to take care of the work of future generations.

The Unsanitary Passenger Car.

The unsanitary condition of many of the passenger cars of a great many of our railroads is a fact that has long been well known. That this condition is in some parts of the country much worse than in others appears obvious from the action recently taken by the Iowa State Board of Health. This board has taken up the matter of coöperating with other State boards to bring to the attention of railroads the fact that passenger cars are unsanitary. It is proposed to carry on a campaign of education and interest the other boards, and also if the railroads do not volunteer to make proper changes, to ask congress and the various legislatures to enact legislation. We sincerely hope that this movement will be successful, for no doubt unsanitary passenger cars have been responsible for the dissemination of many preventable diseases.

Surgery the Rage.

At the present time surgery appears to be occupying the center of the medical stage almost to the exclusion of the art of medicine. The most recent graduate, after spending a few months' time in the out-patient department of a hospital, considers himself competent to do the most difficult feats in surgery. One has only to converse but a short time with the average hospital interne to learn that he has decided to do nothing but surgery when he embarks upon his career. Let us hope that the near future will see a reaction, and that the young medical man will find that the practice of medicine is not so dull as it appears to him.

ITEMS AND NOTES.

THE first of the German sanatoriums founded on the Island of Madeira by Prince Hohenlohe is now opened.

THE International Anatomical Congress at its first session in Geneva, Switzerland, accepted an invitation to meet in Boston in 1907.

OF fifty-eight applicants taking examinations before the Oregon State Board of Medical Examiners in July, only about one-third passed.

TYPHOID has broken out at the Naval Academy, but the medical officers have no apprehensions regarding the general health of the midshipmen.

PROF. EDWARD S. WOOD, of Harvard, died recently at his summer home in Pocana. He was widely known as a medical expert in criminal trials.

DRS. P. E. ARCHINARD and John J. Archinard, of New Orleans, bacteriologists, believe that they have found the long sought yellow fever germ.

THE union of German-speaking members of the medical profession who are total abstainers held its tenth annual meeting in Vienna on September 10.

THE lord mayor of Leeds, England, has determined to start a system of pure milk depots in that town to check the fearful infantile mortality there.

THE prize of 1000 kronen, offered by the Hungarian government for the best essay on the treatment of trachoma, has been won by Professor Kuhnt, of Königsberg.

THE *Novoe Vremya* says that August 7 was the centenary of the founding of one of the oldest Russian educational societies—the Imperial Moscow Society of Experimental Natural Philosophy.

DR. WERNER SPALTEHOLZ, of the University of Leipzig, has been offered and will accept the chair of anatomy at the University of Chicago, vacated by Dr. S. F. Barker on his call to Johns Hopkins.

General Leonard Wood, the sanitary reformer of Cuba, has lately been operated on successfully for an exostosis of the skull, the result of a blow on the crown of the head received about a year ago.

The annual report for 1903 of the State Board of Health shows a material increase in the number of suicides in New Jersey. During the year there were 314 cases, as against 265 the previous year.

The College of Physicians of Philadelphia has awarded the Alvarenga prize to Dr. Chalmers Watson, Edinburgh, for an essay on the "Importance of Diet: An Experimental Study from a New Standpoint."

Medical Director John C. Wise, U. S. N., has been given command of the naval medical school at Washington. He succeeds Medical Director Robert A. Marmion, who has been assigned to other duties.

The American Association of Obstetricians and Gynecologists held its eighteenth annual meeting in New York on September 19, 20, and 21, under the presidency of Dr. Howard Williams Longyear, of Detroit.

M. Mederros, of Rio de Janeiro, a member of the Brazilian legislature, has submitted to the Chamber of Deputies the offer of a prize of $2,000,000 to be awarded to the discoverer of a certain means of stamping out consumption.

Prof. Alexander Russell Simpson, who for thirty-five years has filled the chair of midwifery in the University of Edinburgh, has handed in his resignation, which took effect August 31. Professor Simpson succeeded his uncle, Sir James Y. Simpson, in the occupancy of the chair.

First Apostle Dowie of Zion City has not only directed that hereafter all members of his church who marry must first have his written consent in order that the union may be recognized by the church, but has also issued a command that in future every couple married in Zion must increase the population by one child each year. Before marriage, however, even the chaste kiss is forbidden the engaged couple.

Dr. F. G. Gade, prosector in the University of Christiania, has given a sum of 150,000 kroner to his native city, Bergen, for the foundation of a laboratory of pathological anatomy. For

a long time past there has been a feeling among the inhabitants of Bergen that the city should be the seat of a university, or at least of an institute of medical science. The laboratory created by Dr. Gade's munificence will, it is hoped, form the nucleus of such an institute.

A NEW Red Cross Society was formed in London last month under the name of the British Red Cross Society. The society will include all organizations in the empire, says an exchange, having similar aims. Queen Alexandra delivered a speech outlining the objects of the organization, and appealing to the women of the empire to take up the work. Lord Rothschild moved a resolution authorizing the appointment of an executive committee, of which it is expected Sir Frederick Treves will be chairman.

THE International Congress of Anatomy which was held in August at Geneva paid a graceful compliment to the memory of Michael Servetus by placing a wreath at the foot of the monument erected to his memory at Champel. Another wreath was placed there by the British delegates. Servetus, who was burnt by Calvin for heresy in 1553, studied medicine at the University of Paris, and described the pulmonary circulation in his Christianismi Restitutio, which shared the fate of its author, and is now one of the rarest of books.

THE memorial of the Prussian statistics bureau, issued in connection with its one hundredth anniversary, contains, says *American Medicine,* a detailed statement of the mortality on account of tuberculosis and cancer since 1876. It appears that the tuberculosis mortality in Prussia reached its highest in 1886, with 88,283 deaths, and since then has constantly decreased. In 1902 and 1903 the number of deaths from tuberculosis was 67,445 and 66,726 respectively. A gratifying feature is found in the fact that in the larger cities, where statistics are most reliable, the decrease is especially great. In 1886 in all cities over 100,000 inhabitants the death-rate on account of tuberculosis was 37.36, and in 1902 only 22 per 10,000 inhabitants. Unfortunately, the mortality from cancer indicates a notable increase of that disease. In 1901 and 1902, 21,488 and 21,876 persons died of cancer in Prussia against 10,919 in 1886. Cancer attacks persons of ages between 30 and 70 and above, chiefly. City communities suffered most from the increase. In 1886 the mortality from cancer in all Prussian cities was 5.71 against 8.75 in 1902, and in rural communities 2.75 in 1886 against 4.35 in 1902, per 10,000 inhabitants.

NEW PUBLICATIONS.

THERAPEUTICS: ITS PRINCIPLES AND PRACTICE.

This volume is in its twelfth edition, and has been thoroughly revised to conform to the new Pharmacopœia which became official September 1, 1905. Besides the changes necessary to make the work conform closely to the new Pharmacopœia, a large number of other important changes are noted. The chapters on Expectorants and on Disinfectants have been completely rewritten, and new, systematic classifications of these drugs adopted. A detailed consideration of local anesthesia, including the so-called spinal and neural anesthesias, has been added. Over seventy new drugs have been added to those formerly discussed. The treatise is intended to be used by the student as a text-book, and by the practitioner as a book of reference. The work of revision has been carefully and thoroughly done, and this last edition of the treatise will doubtless continue in the high favor that has been accorded it by the profession for the last thirty years..

Therapeutics: Its Principles and Practice. By Horatio C. Wood, M.D., LL.D. (Lafayette, Yale, Pennsylvania), Professor of Materia Medica and Therapeutics in the University of Pennsylvania; Member of the National Academy of Science. Twelfth Edition, Thoroughly Revised and Adapted to the Eighth (1905) Edition of the United States Pharmacopœia, by H. C. Wood and H. C. Wood, Jr. Price $5.00. J. B. Lippincott Co., Philadelphia, Pa.

A MANUAL OF MIDWIFERY.

This manual is from the pen of a well known Irish obstetrician and presents a complete text-book of midwifery. The author had the assistance of a number of specialists, and together they have placed in a single volume a comprehensive account of the theory and practice of modern obstetrics. The book contains a large number of very good illustrations. The subject matter displays literary skill, and the manual impresses the reader as having been carefully compiled. This manual will undoubtedly acquire the popularity it merits.

A Manual of Midwifery for Students and Practitioners. By Henry Jellett, B.A., M.D. (Dublin University), F.R.C.P. & L.M., Gynecologist and Obstetric Physician to Dr. Steevin's Hospital, Dublin; Extern Examiner in Midwifery, Royal University of Ireland; Examiner in Midwifery, Royal College of Physicians, Ireland, etc. With nine plates and four hundred and sixty-seven illustrations. William Wood & Company, New York.

MANUAL OF PSYCHIATRY.

This book from the pen of a French writer attests the favor with which the classification suggested by Krepelin is being received. The author, while recognizing the defects of Krepelin's classification and the probability of future changes, believes it so superior to what we have hitherto had that he chooses to follow it in this Manual of General and Special Psychiatry. In the two parts descriptions and discussions are so concisely presented that the book is less formidable in appearance than some of the larger text-books of any convenient size.

Joseph Collins, the well known New York neurologist, appears as the editor, and Dr. A. J. Rosanoff as the translator.

Manual of Psychiatry. By J. Rogers De Fursac, M.D., Formerly Chief of Clinic at the Medical Faculty of Paris. New York: John Wiley & Sons. London: Chapman & Hall, Limited. 1905. Large 12mo, xii, 352 pp.; cloth, $2.50.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Non-malignant Tumors of the Breast.

T. Collins Warren (*Journal of the American Medical Association,* July 15, 1905) discusses the confusion that has existed in the nomenclature and classification of the non-malignant growths of the breast, and proposes a rearrangement based on the structure and pathology. The material for his study includes a total of 241 cases of benign tumors of the mammary gland, and as an evidence of the existing confusion in nomenclature he remarks that in 199 of these treated in the Massachusetts General Hospital during the past decade, not less than seventy different pathologic diagnoses appeared on the record books. He points out that the mammary gland undergoes constant physiologic changes during life, and that it has at no time an enduring type of anatomic structure. His classification is based on the structural characteristics; thus we have the fibroepithelial group, of which the chief structural constituent is the peculiar transparent periductal tissue of the gland in its earlier development, with its varieties, fibroma, myxoma, and sarcoma, occurring most frequently in the third decade of life and becoming rarer as age advances. A certain number of tumors of the fibroepithelial group present marked epithelial changes, deserving of a separate place in the classification. These fall under two heads, for which Warren proposes the designations fibrocystadenoma and papillary cystadenoma. The name "cystadenoma" is restricted by him to local new growths of a cystic character, the majority of which, in the clinical classification, come under the papillary type. Multiple diffuse cyst formation in the breast he prefers to classify as abnormal involution, and under that head he goes more extensively into the discussion of the nomenclature of other writers. This class is included under "hyperplasia," as well as the rarer "diffuse hypertrophy," which has received attention from many writers.

Out of 115 cases of abnormal involution, 59 were classified as cystic only, the remaining 56 presenting evidence of epithelial proliferation. Of these last, three types are distinguished according to the character and degree of the epithelial growth: proliferation of the acini, papillary outgrowths of epithelium into cysts, and adenomatous proliferation of epithelium. These types

are only histologically distinguishable, but the last is of interest because it is chiefly with it that we find the combination of involution and carcinoma. The conditions may vary in different portions of the same gland, and on account of this and the liability to carcinoma in these cases, Warren recommends operative treatment in every case of abnormal involution.

Other forms of mammary disease noticed are chronic inflammatory conditions, falling into two main classes, those occurring in connection with lactation and those produced by specific inflammatory diseases, such as tuberculosis, chronic abscess, galactocele, tuberculosis of the breast, single retention cyst, non-indigenous tumors, such as sarcoma, lipoma, etc., and supernumerary breast.

In conclusion he describes his method of plastic resection of the mammary gland, consisting in an incision rather longer than that contemplated by Thomas along the lower and outer border of the gland, the removal of a V-shaped portion containing the cyst or tumor, and exploratory radiating incisions in the remainder of the gland. The operation is described in detail; he has performed it seventy-four times in 66 cases. The great majority of operations were for abnormal involution, and he finds it a very satisfactory substitute for the disfiguring exploratory incision on the anterior surface of the breast, for the uncertainties of puncture, and for the mutilation caused by amputation.

Rupture of the Gall-bladder.

B. M. Ricketts (*St. Louis Medical Review*, July, 1905) says that rupture of the gall-bladder should be suspected in all abdominal injuries and localized tendencies about the hepatic tract.

When there is any indication of such condition the abdomen should be opened as soon as possible.

Concretions and abdominal fluid should be removed from the peritoneal cavity, preferably with gauze.

Cases in which the peritoneal cavity should be irrigated with water alone, or in combination with salt or other medicaments, are few, if indeed they ever exist.

The condition of the common duct should, if possible, be determined at the time the abdomen is opened.

If the common duct is occluded by neoplasm the gall-bladder should be sutured to the duodenum.

If a concretion is found in the common duct it should be removed at the primary operation and drainage provided for

Free drainage should be resorted to by suturing the gall-bladder to the abdominal wall, or if this cannot be done, by inserting gauze packing.

Recurrent Tuberculous Peritonitis.

T. B. Shober (*New York Medical Journal*, Aug. 5, 1905) says that until we have more precise methods of differentiation most cases of tuberculous peritonitis will be operated on under some other diagnosis.

Celiotomy and removal of the primary focus of the disease offer the best prospect of cure. The abdomen should be thoroughly irrigated and closed without drainage.

A short course of *x*-ray treatment immediately following operation is advisable in all cases, but it is especially important in those cases in which the primary focus has not been removed.

Should recurrence take place a secondary operation—to remove, if possible, the primary focus—is advisable; and this operation should be followed by a course of *x*-ray treatment.

A Method of Sterilizing Surgical Knives.

Grosse (*Zeit. f. Chir.*, No. 76) after many experiments succeeded in sterilizing surgical knives without destroying the cutting edge. He placed the knives in glass tubes which were tightly corked, and then sterilized the package for ten minutes in steam. Anthrax spores were invariably destroyed by this method. The author does not consider this a method of dry sterilization, as bacteria would not be destroyed in so short a time, but that the atmospheric air contained in the tubes supplies sufficient moisture to make it a steam sterilization.

MEDICINE.

Vicarious Action of the Bowels for the Kidneys in Tuberculosis.

L. F. Flick and T. Walsh (*American Medicine*, July 22, 1905) call attention to the fact that it has long been recognized that in certain cases of tuberculosis there is a looseness of the bowels not due to ulceration. This looseness has been termed irritative diarrhea, and has been ascribed to errors in diet. A careful study of a number of cases which have been under observation a long time clinically, and which have come to

autopsy, lead them to believe that in these cases the looseness of the bowels is due to the vicarious action of the bowels for the kidneys, and that nature is really trying to protect the system by this vicarious action. Eleven cases are reported. In all of them there was severe diarrhea, usually over a protracted time. In all the intestines were practically normal, and the kidneys showed alterations. The cases were studied clinically from four weeks to three years; diarrhea lasted from four weeks to eight months. In three cases out of the eleven the autopsy showed the ileum slightly congested; in all the remaining cases the intestinal tract with the exception of the appendix was normal. Several forms of nephritis were found—toxic nephritis, parenchymatous nephritis, diffuse nephritis, and intestinal nephritis. In seven cases out of the eleven there were scattered tubercles in the kidneys. The diarrhea was considered to be a vicarious action for the kidneys because no other definite cause was found.

The rest of the paper deals with nephritis in tuberculosis, its frequency, its etiology, its symptomatology, and its treatment. It is caused by the growth of tubercle bacilli in the tissue of the kidneys and by the toxins secreted through the kidneys and from other lesions elsewhere. It also may be caused perhaps by the dead tubercle bacilli in the process of elimination. The treatment is magnesium sulphate and nitroglycerin.

A Study of the Action of Colloidal Solutions of Copper upon Bacillus Typhosus.

A. H. Stewart (*American Journal of the Medical Sciences*, July, 1905) says that there is a natural tendency for typhoid bacilli to die when the water containing them is allowed to stand for a long period. There may be a temporary increase in the number, but this is followed in several hours or days by a decrease and a final disappearance. Trials were made as to the period of total disappearance of typhoid organisms which had been placed in sterile Schuylkill water and in that taken directly from the tap and from the river surfaces containing large numbers of water organisms. These waters were placed in vessels of glass, porcelain, tin, and copper, and their contents, kept at room temperature, were plated every fifteen minutes for periods ranging from three to six hours. All the experiments were repeated many times. Sterile drinking-water in clean copper vessels inoculated with typhoid bacilli invariably showed that the bacilli had all perished in one hour. Water similarly treated in glass

vessels exposed to light showed varying results, and in no instance had the typhoid organisms all perished in three hours. Water similarly treated in enamel vessels showed a slight diminution of the number of typhoid organisms in three hours. Water similarly treated in aluminum vessels showed a disappearance of the typhoid organism in three hours. Raw tap-water in glass vessels showed an increase in the number of organisms in three hours; occasionally there was a slight diminution in their number. Raw tap-water in copper vessels in one experiment showed a diminution from 384,000 germs per cubic centimeter to 18,000 per cubic centimeter in three hours. Usually the diminution was not so great. Raw tap-water containing large numbers of river organisms and considerable vegetable matter when inoculated with millions of typhoid organisms and placed in a copper vessel showed that the typhoid were killed off in one and three-fourths to two and one-half hours. Water containing colloidal copper had a more rapid tonic action upon typhoid organisms than upon river water organisms. The quantity of colloidal copper given off from a one-liter copper vessel in three hours was one part to four million. This amount killed off the added organisms in from one and three-fourths to two and one-half hours, and chemical experience has shown that this amount of colloidal copper is harmless when taken into the human system. In epidemics of typhoid fever, water should be purified of typhoid organisms by allowing it to stand in copper vessels for three hours.

Virulence of Croupous Pneumonia and its Prognostic Significance.

Steurtz (*Zeit. f. klin. Med.*, Bd. 52) found that white mice which were inoculated with sputum from severe cases of pneumonia died sooner than those infected with sputum of milder cases. He therefore attempted to determine the relation of the time of the animals' death with the severity of the disease. For this purpose he used one cubic centimeter of sputum from twenty different pneumonia cases, which he injected into the backs of white mice, with the following results: Those inoculated from fatal cases died within eight to ten hours, those inoculated from milder cases died within eleven to twenty hours, and others infected with the mildest forms lived from twenty to forty-five hours. The virulence of the sputum is not reduced with the crisis of the disease, but continues the same for twenty-four hours after, from which he deduces that the crisis is not due to

the loss of virulence of the coccus. The animals always died soon after inoculations, even before the clinical exacerbation of the disease was manifest, whilst the milder cases never showed any increase of virulence.

Etiology of Tuberculosis.

Reitzke (*Berliner klin. Wochenschrift*, No. 31) by experimenting on animals, and his careful observations on cadavers of children which died of tuberculosis of the upper air-passages, could not determine any connection between the cervical and bronchial glands. The primary seat of the infection in children he found to be in the bronchial glands, which become infected by means of the inhaled air, whilst the infected cervical glands represent an independent affection.

Diabetes Mellitus.

Loeb (*Cent. f. innere Med.*, No. 32) finds that the hereditary form of diabetes occurs as often in the female as in the male. Of 1000 cases 790 were Jews, the ages ranging from fifty to sixty years. The disease usually attacks previously healthy persons, running a benign course, and is sometimes accompanied with arteriosclerosis, though seldom with tuberculosis. Death usually is due to intercurrent diseases. The hereditary form of diabetes does not seem to be due to an affection of the pancreas, but rather a disease of the nervous system.

THERAPEUTICS.

Intravenous Injection of Ergot.

T. Sellman and E. D. Brown (*Journal of the American Medical Association*, July 22, 1905) report the results of experiments made chiefly on dogs to determine the circulatory effects of the ergot preparations as found in the market, in therapeutic doses, normally and in the pathologic conditions in which the drug is recommended. Intramuscular injections were first employed, but the effect was so slight they changed to the intravenous method, that used by other investigators. The animals were anesthetized, the injections made into the femoral vein, and the blood pressure tracings taken with a mercury manometer, the connection being filled with 25 per cent magnesium sulphate. The conclusions

reached are, in substance, as follows: The typical effects of the intravenous injection of ergot consist in a large and abrupt fall of blood-pressure, followed by a prompt recovery, and generally by a slight and short rise. The volume of the organs varies generally in the same direction as the blood-pressure. The changes in the latter are mainly cardiac. This is confirmed by myocardiograms from the intact and excised heart. Ergot causes first a lessening and then an increase of the excursions; both phenomena may occur while the ergot is being injected; the rate of the heart is but little altered. The effect must be directly on the cardiac muscle. There is some oncometric evidence that ergot has a slight vasoconstrictor action, but this is slight and inconstant. There was no evidence of strong constriction or of high rise of blood-pressure. With intramuscular injections the preliminary fall of blood-pressure is absent. The action is independent of the dose, within wide limits. The relative predominance of fall and rise vary somewhat in different preparations; age, however, does not impair their effects on the circulation. Lowering the blood-pressure by any method greatly lessens the effects. Shortly after the destruction of the spinal cord, however, ergot produces a relatively good rise of pressure. Large doses depress the vagus center and the vasomotor endings. It is not acutely fatal, however, in very large doses. The experiments do not point to any useful therapeutic action of ergot in modifying the circulation. The authors, however, do not wish to be understood as denying the clinical evidence in its favor, they merely claim that it lacks experimental evidence in its support. Its peculiar effect on the combs of fowls indicates that certain animals and certain vascular areas are more susceptible to the constrictor action of the drug. It may be so with man; it is conceivable that acting unequally on different organs it may thus be of benefit in the obscure conditions in which it is recommended. In the face of the negative experimental evidence, however, they think that clinical conclusions should be formulated with caution and conservatism.

In conclusion they notice a peculiar effect, closely resembling that of ergot, that followed the intravenous injection of 0.9 per cent sodium chloride solution. This occurred in three dogs, and only when the blood-pressure was high, and best with rather large doses. It was also most noticed when the ether had been removed for some time, and ceased entirely when the animals had passed into shock. The article is a long one, with numerous illustrative tracings.

The History and Basis of Dietetic Methods in Typhoid Fever.

J. B. Nichols (*Medical Record*, July 29, 1905) leads up to the expression of his own ideas on the subject of feeding in typhoid fever by reviewing the history of the dietetic treatment of fevers from the time when the antiphlogistic treatment was in vogue. This consisted in bleeding, purging, emesis, starvation, etc., to subdue the excitement supposed to exist. In the seventeenth century Thomas Sydenham followed this plan, but during the eighteenth century and down to about 1815 the mode of treatment of continued fevers was stimulant or mildly antiphlogistic. From 1815 to 1835 or 1840 the treatment became more vigorously antiphlogistic, and an entirely restricted diet was in general use; but then Robert James Graves of Dublin introduced the plan of more liberal feeding. During the late sixties or seventies of the nineteenth century the present liquid diet, consisting chiefly of milk, came into practically universal use, and has met with but little opposition. The author takes the ground that the adoption of milk as the chief article of food for such patients has no logical justification, and he expresses himself in favor of a more liberal diet, which shall include solid food. Milk has many disadvantages, as coagulability, fermentability, bulk, etc., and while it is a complete food for infants it is not adapted for the exclusive nourishment of adults, except in amounts that are practically prohibitive. It does not follow that because milk is fluid it is on that account more easily digestible, less irritating to the bowels, or leaves less fecal residue. The present method of feeding in typhoid has developed in a way that seems largely empirical, and the history of diet in fevers shows a progressive advance from a starvation regimen in the direction of more and more liberal diet. The author therefore believes that the present fears of soft and solid food might on trial prove to be unfounded, and he considers that typhoid patients should be given a more varied and more abundant diet than is now customary.

The Treatment of Acne.

C. M. Williams (*Medical Record*, July 22, 1905) first reviews the evidence in favor of each of the various theories of the etiology of acne, and expresses himself as believing that the view which embraces both the bacterial and the constitutional factors is the true one. He says that acceptance of the belief that the

microbacillus is the active, essential pathogenic agent in the production of the lesions does not involve the denial of the equally great importance of the constitutional state. Accordingly the treatment must be both local and general, and the necessity for thoroughness in the search for and correction of all possible predisposing causes, and for minute detail in all efforts at treatment, is particularly emphasized. Of the predisposing causes, indigestion with constipation, disease of the sexual organs, the scrofulous type, and anemia are mentioned as especially important, and their treatment when complicated by acne is outlined. The local measures are, however, the most important, and the hygiene of the skin is described in detail. Of topical applications, after the irritated skin has been soothed by the use of bland lotions like milk of magnesia, diluted, stronger preparations, of which the basis is usually sulphur, and of which lotio alba is a useful example, are to be employed. The treatment also includes the expression of comedones, incision of indurated or sluggish nodules, etc., and the minutiæ of these various phases are fully described. The author urges the adoption of a single drug as a main reliance and study of its possibilities, rather than shifting from one thing to another in the hope of finding a panacea which does not exist. As the micrococcus, which is responsible apparently for most of the inflammation and suppuration in acne, is exceedingly common if not universal in dermatitis seborrheica, treatment of the scalp should go hand in hand with other measures.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Treatment of Inoperable Cases of Malignant Disease of the Orbit by the X-ray.

C. S. Bull (*Medical Record*, June 24, 1905) says that while malignant disease of the orbit which has apparently not originated in or involved the adjacent sinuses should be extirpated by the knife as soon as possible, the consensus of opinion seems now to be that when the neighboring sinuses are involved a complete removal of the growth is impossible, a recurrence of the growth is certain to appear, and with each repetition of the operation the return of the disease is hastened, and the life of the patient is by just so much shortened. On the other hand, in view of what

we actually know of the action of the *x*-ray, it would seem not only wise, but our duty, after such operation by the knife as may be necessary, to expose the parts a certain number of times to the *x*-rays, in order, if possible, to destroy isolated cells or aggregations of cells in the neighboring parts which cannot be reached by the knife. It is stated on good authority that there has been a marked diminution in the death-rate following operations on patients so treated. The author's experience, based on his own cases, has satisfied him that the *x*-rays are of value in removing the pain so constantly complained of, and he therefore believes that the treatment is to be recommended in inoperable cases because it relieves much of the patients' sufferings, and thus may prolong their lives. It would seem that the more recent and superficial a malignant growth is, the more rapid and favorable are the results from *x*-ray treatment, but it takes time to prove the ultimate good results.

The author presents the detailed reports of ten cases from his own private practice in which the *x*-ray treatment was employed after incision by the knife. Of these ten cases, two were very much improved if not apparently cured, and of these two, one was an epithelioma and the other a carcinoma. The remaining eight cases, in which no demonstrable effects were produced by the *x*-rays, were all sarcomata. In all but one of these the pain was more or less effectually relieved. No untoward results of the action of the rays were observed in any of the cases.

Some Ophthalmic Suggestions.

R. Kalish (*Medical Record*, June 3, 1905) points out some popular fallacies in regard to diseases of the eye, which he says are often the cause of serious injury to the visual power. Among these is the senseless outcry against the wearing of glasses by the young, the belief that squint in young children should go untreated as they will outgrow it, and especially what the author terms the self-fitting of glasses in the establishments of opticians. The victims in these places are allowed themselves to select the glasses that seem to "fit," and not twenty per cent of such eyes are accurately corrected as to the refractive error, and sooner or later it is discovered that serious damage has been done. Much emphasis is laid by the author on the broad rule that glasses should never be ordered without an ophthalmoscopic examination. Instances are cited in which the glasses obtained from opticians were wholly unsuitable and did positive harm.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
Attending Neurologist to Harper Hospital.

Otitic Epilepsy, Brain Abscess, Orbital and Meningeal Infection from the Ethmoid Cells.

The *American Journal of the Medical Sciences* for August contains three successive articles, showing the *sometimes* close relations of aurology and rhinology to the field of the neurologist.

Dr. B. A. Randall calls attention to the undoubted existence of a type of epilepsy having its origin in ear disease, and reports a most interesting case, which was greatly relieved by a mastoid operation.

Dr. E. B. Dench, an aurist, reports two fatal cases of brain abscess originating from infection through the ear. In both operation was done, and free drainage had, but both resulted fatally.

Dr. James F. McCaw reports a fatal case of orbital and meningeal infection from the ethmoid cells, and concludes thus: "In studying this case the points of interest are: (1) The fact that this patient died from a meningitis the result of nasal suppuration is of interest, as clearly exemplifying the dangers of neglected cases of this character. We need only consult the literature of this subject to be convinced that the reports of fatal cases are rare. (2) The path of infection seems to have been an unusual one, the pus finding its way across the orbital cavity to the external angular process and there leaving it, forming a large subperiosteal collection. Traveling backward, it entered the cranial cavity through the sphenoidal fissure, apparently remaining subperiosteal throughout. (3) The question of diagnosis and prophylaxis is probably of greatest interest, and it is for us rhinologists to sound the warning note, and impress upon our fellow practitioners the importance of instituting appropriate treatment in all cases of nasal suppuration, before they have reached such extremity. Although fatal cases are rare, it is nevertheless a possibility in every case of suppurative sinusitis."

THE MEDICAL AGE

VOL. XXIII. DETROIT, OCTOBER 10, 1905. No. 19.

ORIGINAL CONTRIBUTIONS.

NOTES ON EXPERIENCES DURING THE RUSSO-JAPANESE NAVAL WAR, 1904-1905.*

BY S. SUZUKI,

Surgeon-General, Imperial Japanese Navy.

I feel it a great honor to be allowed to address this honorable meeting on the subject of my recent experiences during the present war. The limited space of time at my disposal does not allow me to go into details even on points of importance; and I think therefore that my best plan will be to touch briefly on the several points which have been most prominent in my experience, so as to give you at least an outline of the whole subject.

I divide my experiences as surgeon-in-chief of the combined fleets, serving on board the flagship *Mikasa* under Admiral Togo, into two parts:

(I) The treatment and management of the wounded.

(II) The sanitary arrangements of the combined fleets.

And first, as to the

TREATMENT AND MANAGEMENT OF THE WOUNDED.

In February of last year, before our fleets left Sasebo, I issued orders to the surgeons of the fleets that aseptic treatment shall be adopted in the treatment of the wounded in all the battles of the war then imminent, and that all necessary preparations for the adoption of this treatment should be made. I also ordered the observation of conservative methods of surgery: amputations, etc., on board the warships should be avoided as far as possible, and every preparation made for transferring the

*Read before the annual meeting of the Association of Military Surgeons, U. S. A.

wounded as soon as possible after the conclusion of an engagement to the hospital ships, for conveyance to the home hospitals, where complete asepsis could be enforced and better results obtained than on the warships, where our arrangements were of necessity more or less incomplete.

All the gentlemen here present are aware that even in peace time complete asepsis is a matter difficult of attainment on board a warship. During an engagement it is ten times more difficult. The firing of guns, the hasting to and fro of men engaged in combat, and a thousand other things fill the air around the temporary surgery with dust and particles of matter; a number of wounded cases are brought in, all demanding immediate treatment; and the constant need for despatch in doing our work—all combine to make complete asepsis a thing almost impossible to enforce. We are, however, convinced believers in the immense value of the aseptic treatment of recent wounds, so that we have constantly endeavored to combat all the difficulties that stood in our way, and, as I hope to show in this paper, our perseverance has been abundantly rewarded.

The total number of casualties from February, 1904, to August, 1905, was 3682; of these 1891 were killed and 1791 wounded, of which 117 died afterward.

Of the 1891 deaths, 1445 were due to shipwrecks caused by submarine mines, and only 563 to wounds received in actual fighting.

Of the 1791 wounded, 647 received wounds requiring hospital treatment, and of these only 32 died. The rest were partly light cases, and partly cases requiring greater care.

Our aseptic methods have been the same as those in general use in every part of the world. All dressing materials were sterilized by steam, and kept in close tin cases; surgical instruments were purified by boiling in soda water; the surgeon's hands, and the skin around the wounded parts, were washed in sterilized water, with soap applied by a brush. A solution of sublimate was next used, and this washing was followed by another washing with sterilized water. When the condition did not allow the use of soap and water unhydrated alcohol was used to sterilize the skin around the wounds.

Many opinions have been broached by the surgeons of various navies as to the proper treatment of the wounded during the action. My own experience during the actions of present war leads me to the conclusion that it must be divided into two stages.

In the first stage—*i.e.*, whilst the action is still going on—we can hope to accomplish nothing except the most urgent aid. We can merely ligature or compress arterial bleeding, or apply ready-made splints in cases of fracture, or cleanse the wounds of the soft parts of the body, and apply sterilized gauzes and bandages; but that is all. It is not till we come to the second stage, when the action is over and the firing has ceased, that we can really begin to apply our healing art. We can then get the ship's surgery ready for the work, and give orders for the wounded to be brought thither from the places where they have been temporarily bestowed. We take the severer cases first, examine the wounds minutely and make notes on each case, try to extract any fragments of shell or pieces of cloth which seem as if they could be got without much difficulty, and where possible suture the skin. It will perhaps be thought that in these latter cases, primary union is hopeless and that not much good can be obtained by suture. Our experience has, however, showed us that to cover a wound surface with skin is a great protection to it. In cases of compound fracture, free segments of bone in the wound cavity were extracted; but fissured fragments or such as were not completely detached were left *in situ*, and it was found that these would unite afterward at the home hospitals. The dressings in the second stage were the same as those used in the first.

The treatment given during the second stage was merely of the nature of urgent aid. I believe that it is better to give temporary relief to the wounded rather than to meddle with complicated operations, and to transfer the patients as soon as possible to the hospital ship. The action which has ceased for the time may at any moment be resumed. It is not right, therefore, nor desirable, to spend precious time in attending to the wants of a few, and thus to leave unattended the larger portion of the wounded. I believe that in crises like these it is a surgeon's duty to give relief to all the wounded and not to a few only.

THE LOCATION OF THE TEMPORARY SURGERY.

Many ideas have been broached in the various navies as to the proper place for a ship's surgery. Ideally speaking the right thing would be that at the time of designing a ship a proper space below the water-line should be allotted for the purpose with proper arrangements for the conveyance of wounded men; but this ideal arrangement often interferes with combatant disposi-

tions, not only on smaller vessels, but even on battle-ships, and hence it has come to pass that not one of our men-of-war possesses a surgery ideally placed, though we found one or two on some of the captured Russian ships. My recent experience, however, confirms me in the thought that, in spite of certain drawbacks, the proper place for the surgery is below the water-line. Care must be taken to provide good light and good ventilation, and an elevator for the conveyance of the wounded is most desirable. It is not necessary that the sick-berths should be near the surgery, for the sick may be removed during the action to some place of greater safety; the berths may be placed in any suitable situation on a proper deck above the water-line.

The selection of a surgery for use during action is a point requiring the careful attention of the chief surgeon on each ship. The surgery ordinarily used is as a rule to be found on the main deck, but the position is too much exposed to be a safe one during an action. In battle-ships and armored cruisers a suitable place may often be found on the lower deck, but this is still above the water-line: when we pursue our researches lower down in the ship, the difficulty is not so much to find a proper place as to provide convenient means for taking down the wounded. The ladders in the lower parts of a ship are generally too narrow and too steep to admit of a wounded man being taken below, except by an elevator, where there is one. In the engagements during the present war, our surgeries have as a rule been placed on the lower deck in battle-ships and armored cruisers, whilst in the smaller cruisers either the ward-room, the cockpit, or one of the larger cabins has been used for the purpose.

As to the number of ship's surgeries, every vessel from battle-ship to destroyer should have at least two. The disastrous experience on board the *Hiyei* in the war with China in 1894-5 pointed us to this conclusion, and our experiences during the present war have confirmed us in this opinion. It will be urged in opposition to this that, in smaller ships which carry only one surgeon, it is impossible for him to use two places at once; but the second surgery is intended for use in case the first should be destroyed (as actually happened on board the *Hiyei*), and where such is the case the work of tending the wounded can be carried on without loss of time or expenditure of unnecessary labor. The use of the ordinary surgery at such times is fraught with danger, as the main deck is generally much exposed to the accidents of war. On the *Mikasa* the sick-berths were

damaged during the battle of the Yellow Sea last year, whilst the surgery was smashed by a shot during the battle of the Japan Sea last May. Had our surgical work during those battles been carried on in the ordinary surgery, both surgeons and patients would have been exposed to much danger.

In unprotected cruisers the sides of the surgery should be covered with canvas screens or mantlets. While the gunboat *Chokai* was engaged in assisting the operations of our land forces to the west of Port Arthur, a shell burst quite near to the cabin which was being used as a surgery, but the canvas screens prevented the entrance of any shell fragments into the surgery itself.

The following are the implements and instruments that should be provided in the temporary surgery:

Steam sterilizers, buckets for the reception of soiled materials, and ice-boxes. An operating table may be improvised by the use of chests which are always to be found on board a ship. Wounded persons suffer much from thirst, and for this purpose jugs with long narrow spouts should be furnished. Tumblers or tubes for sucking are too inconvenient for use during action.

RECEIVING PLACE FOR THE WOUNDED AFTER FIRST AID.

It is important, but extremely difficult, to find a safe place for the bestowal of the wounded after their wounds have been dressed. On battle-ships and armored cruisers we used the passages on either side of the lower deck, placing the sick on each side of the passage, with a narrow space left open down the middle; and in this way we found that we could provide for sixty or seventy men. When the wounded were in excess of this number, other places had to be found, and here we were confronted with a difficulty to which I have already alluded. The only places really suitable were far down below the water-line, accessible only by narrow and steep ladders which made the carrying of wounded men almost impossible, and devoid of light and proper ventilation. Fortunately in none of our engagements did the number of wounded men requiring treatment here exceed the limits of the space provided on the lower deck. The difficulty was therefore not an acute one, but we have learned a lesson which may be of use to us in the future.

In unprotected cruisers every part of the ship is practically alike exposed to danger, so that the placing of the wounded is not so difficult a problem. They were, as a rule, placed on the lower deck.

As soon as the battle is over, the wounded should at once be removed to the sick-berths, or chest-flat, etc., and preparations be made for transferring them to the hospital ship.

During an action, nearly every hatch is closed, and the temperature on the lower deck rises very considerably, not only in summer, but even in winter. This causes much distress to the patients, for whose use electric and other fans should be provided beforehand. On ships carrying ice-making machinery care should be taken to provide the lower deck with abundance of that article.

Dead bodies should be removed as speedily and as privately as possible, and placed in the temporary dead-house. For the bodies of officers we used the engineer's bath-room: the others were placed in the bath-room for seamen.

CARRYING THE WOUNDED.

It is the practice of the Japanese navy during the time of peace to divide the ship's complement into two portions for instruction in first aid and ambulance work.

The first division comprises clerks, riggers, servants, and fire brigade men (also the bandsmen on board the flagship), and receives instructions from the ship's surgeons, in bandaging wounds, prevention and stoppage of bleeding, and carrying of wounded men, for several hours per week. These men, therefore, are well qualified assistants in the work of tending the wounded with first aid. The second division consists of the rest of the crew, and receives instruction as time and opportunity allow.

We found, however, that in the bustle and excitement of an action it was impossible to put into practice all the rules and devices which our men had learned. In about one-third of the cases first-aid dressing was applied to the wounds, and the men carried down on stretchers to the surgery: in the remaining cases the men were just picked up as they fell and carried straight to the surgery in the arms of their comrades. In cases of slight injuries, however, the dressing was at once applied and the men went back to their stations without coming to the surgery at all.

It might perhaps be inferred from what I have just said that our ambulance work was not very satisfactory. But this was not the case. It is not to be expected that work of this nature should be carried out always "according to the book" in the thick of a close fight, where unforeseen accidents are continually hap-

pening to upset one's preconceived calculations. Let me instance a case. On the flagship *Mikasa* we had ambulance parties with first-aid dressings stationed in several places on the upper and main decks, the intention being that whenever a man fell he should at once have his wounds dressed and be taken on a stretcher to the surgery. The *Mikasa*, however, being Admiral Togo's flagship, was constantly in the very thick of the fight. In the battle of the Yellow Sea she was a target for many Russian guns, and seven ambulance men were killed and seven more wounded whilst engaged in the work of giving first-aid dressing on the upper deck. After that experience it was considered unwise to risk any long exposure on the upper deck, and from that time the wounded were carried down to the surgery at once, without waiting to have their wounds dressed on the spot.

It was but natural that we should have some anxiety as to the after course of wounds brought exposed to the surgery, but I am glad to say that all such cases did well after admission to hospital. The wounded were often carried by two men, one at the head and one at the feet; but oftener still a single man would take his wounded comrade on his back. We Japanese are accustomed to this mode of conveyance: our babies are always carried about on the backs of their mothers, nurses, and elder brothers and sisters.

Our experience has been that no one kind of stretcher is adapted for all the requirements of naval service, but this is a point on which I should like to invite your discussion later on. We had stretchers distributed in various places on the upper and main decks of our warships during action; but in many cases the stretchers were injured by fragments of shell, or buried beneath broken spars, etc., so as not to be readily accessible, or else the passages got so blocked with débris as to be impassable. We were thus frequently obliged to have recourse to carriage by hand.

DRESSING MATERIALS AND INSTRUMENTS.

A large consumption of dressing material is unavoidable during action. We foresaw this and provided each ship with a stock of material considerably larger than our usual annual ratio. Thanks to this precaution, none of our ships suffered from a deficiency of dressings, not even after the battle of the Japan Sea, when we had to treat many Russian wounded in addition to our own. For instance, 120 Russian prisoners were treated on board the *Kasuga* after the battle, and even with this large additional demand there was no shortage of supply.

Packets of first-aid dressing for the use of the navy necessarily differ very much from those served to the army. Gunshot or splinter wounds are usually much larger than those made by a small-bore rifle bullet. To cover a gunshot wound completely we require two or three ordinary-sized packets of dressing, and it generally happens that when a man is struck by a bursting shell he has more than one wound. My experience after the fighting on the 9th of February last year showed me that much valuable time was lost in the mere opening of the small packages hitherto in use, and I consequently wrote at once to the headquarters to have the size altered. The packages hitherto served out to our navy contained each three pieces of sublimate gauze folded to the size of three inches in length, and from 1½ to 2½ inches in width. This was enclosed within a folded piece of triangular bandage and the whole tightly packed in a small linen bag. There was no time on emergencies for the ambulance men to open and properly unfold these little packages, so as to cover the whole surface of the wound, and the consequence was that very often only a part of the wound was covered.

The new package contains four pieces of sublimate gauze, 24 inches long, and folded in a package four inches square. This package is wrapped in Japanese paper and is placed in a loose bag of "shibukami," a stout Japanese paper fabric steeped in the juice of the bitter persimmon, which also contains a regularly folded triangular bandage, and is tightly closed with sterilized paste. Our reports tell us that the new package is much easier to open, and that the larger size of the pieces of gauze materially facilitates the work of dressing. Packages of first-aid dressing should be carried by all ambulance men besides being distributed in suitable places in the batteries, on the bridges, and elsewhere.

Each surgery should have a pair of large tailor's shears, these being very useful for cutting off the clothes of wounded men. Also a large number of dressed splints of different kinds and ready for use should be provided.

Fenestrated zinc plate splints are sometimes very useful. With them should be provided a pair of stout nippers for cutting them to the shape required. The aid of the blacksmith cannot be invoked for this purpose during the heat of an engagement.

Cotton rollers, six or seven inches wide, are sometimes useful, and ought to be provided in every surgery. Also, for every surgeon and attendant there should be provided two or three changes of operating clothes, as the clothes worn during the

action cannot be worn again for the operations during the second stage of treatment. India-rubber tubes, four or five feet long, carried by an ambulance party will sometimes save life by stopping bleeding from the limbs. We have had few instances of this during the present war. A transfusion apparatus of salt solution will sometimes save from imminent death. We had one case of this on board the *Izumo*.

Note should also be taken of the identification label. Every member of our force carries on his body a small wooden label, marked with his name and rank. This is of the greatest value to the surgeon in the identification of the dead. Bluejackets not unfrequently borrow clothes from their comrades, so that the marking of the clothes is no infallible guide, and it sometimes happens that the faces of the dead have been so disfigured as to be unrecognizable.

PROTECTION OF PERSONS.

It stands to reason that in preparing a ship for action everything should be removed except what is absolutely indispensable or useful for protection. Hammocks are very useful for protective purposes, but all metallic objects should be taken away wherever practicable. For instance, during the battle of the Yellow Sea, a semaphore in the fore part of the *Mikasa* was struck by a shell, and twenty-three persons were either killed or wounded by splinters and fragments. If the semaphore had been removed—and it was not essentially necessary—this deplorable loss would not have been sustained. Bridges are always favorite targets for the enemy's gunners; they should be protected as much as possible by layers of hammocks hung over the sides. The compass-box on the topmost bridge is of vital importance and cannot be removed; it also should be encased in hammocks for protection; and the sides of light guns should likewise be covered with hammocks or mantlets. We have had many illustrations of the protective value of hammock screens; for we have frequently found embedded in them fragments of shell and splinters which would have wrought much havoc if it had not been for the screens. It might be thought that hammocks would be liable to be set on fire easily; but we have not had a single instance of this in the present war.

It should be noted that gun-crews, etc., on the non-firing side of the ship ought to be placed for rest on the *firing* side. This will perhaps seem strange, but a moment's consideration

will show that the action of the fragments of a bursting shell is radiative, and that the area of destruction is far larger at a little distance from the place of explosion.

We found that hammocks could be used not only as protective screens but also as life-preservers. More than one occasion, when our ships sank after contact with Russian mines, the lives of our men were saved by clinging to their hammocks. A hammock makes an excellent life-buoy—it is not hard to touch, like wooden gear, and is easily handled.

When the boats are sent out for rescue work in cold weather it is advisable to take a number of blankets for the use of the rescued persons. If this precaution is not taken there is the danger that some of the men may die from cold before reaching the ship. When there are many men to be picked up it sometimes takes a long time, especially in the dark, before the boat can get back to the ship.

In order to prevent burns or scalds from exploding powder or the steam from bursting pipes, every part of the body should be kept covered. We had many such accidents, but we found that in every case the men who observed this simple rule escaped with nothing more than injuries to face and hands. I gave orders that before the commencement of an action every one on board should put on clean underclothing. I attribute much of the rapid progress to recovery made by our wounded to this precaution.

When steam is ejected from a bursting pipe, the men standing by should lie flat down on the platform or deck. Men who have tried to escape by climbing ladders or ropes have invariably been severely scalded.

It was once supposed that the conning-tower was the safest place on board a ship, but we can no longer believe that it is so. The observation slits, though low, have to be made very wide, in order to secure a sufficient range of vision, and there have been several instances of shell-fragments finding their way into the towers through these slits, and inflicting severe injury on the inmates. One of the bridges, or even the compass bridge, would seem to be a safer place for observation. Admiral Togo constantly used the compass bridge of the *Mikasa* during action, both for observation and for directing the operations, and never received even the slightest wound.

We know that there are many instances in which a life has been saved by some object which the wounded man carried about his person, and which stopped the further progress of the bullet

or shell fragment, and we have had several such instances in the present war. But we have also had instances of the opposite, where objects carried on the person have been driven into the body by the splinter and had thus aggravated the injury considerably. We had one instance of a captive Russian officer who carried in his breech pocket a number of gold coins which had all afterward to be extracted from his buttock.

We have received from our surgeons many reports as to rupture of tympanic membranes and concussion of the labyrinth during firing, and I am sorry to say that I do not yet know what is the best way to prevent these injuries, though I gave the matter my most careful attention. A remedy or preventive appliance which is to be used by several thousand men must not be of a complicated nature, and I could not think of anything more effective than plugging the meatus with cotton-wool. During the period of preparation the surgeons and officers instructed the men of each division as to how to plug their ears, and sterilized cotton-wool was distributed for the purpose not only to the gunners but to the whole crews, and yet both after the battle of the Yellow Sea and after that of the Japan Sea we had several cases of deafness brought to our surgeons. These cases may sometimes have been due to careless plugging of the ears, but there were some cases where the ears had been very carefully plugged, and yet deafness ensued. This will require further investigation.

The eyesight of gunners has a great influence on the results of a battle, in which accurate shooting is of such paramount importance. We have always carefully examined the eyes of our gunners before action. If we have found any eye trouble we have treated it at once: if we have found that it was not easily curable we have had the man transferred to some other station, and his place has been taken by some man with unimpaired eyesight. We found that the gases and dust, which always accompany the firing of big guns, irritate the eyes of our gunners and impair their vision. Every battery has therefore been freely supplied with a one-per-cent solution of boracic acid for the use of the men.

CHARACTER OF THE GUNSHOT WOUNDS.

Wounds inflicted by shell fragments or splinters due to shell explosions present the characteristics of laceration, whether in the soft tissues or in bony substances. The inlets of the fragments are generally smaller in size than the exits; sometimes,

however, the exact opposite is the case, though it is hard for us to explain the causes of these and other phenomena. We have often found in the cavities of blind wounds with comparatively small inlets fragments of shell several times larger than the inlets themselves. In other cases we found wounds with only one orifice, in which we could find no fragments of shells or splinters lodging, though we searched for them carefully with Roentgen rays. And sometimes (as in post-mortem examination) we found fragments the presence of which in the body we could not account for at all.

In the mutilated wounds of the limbs the blood-vessels had often been cut right across, and yet there were but few cases of profuse hemorrhage owing to the curling up and closing of the divided ends of the vessels.

In perforated and blind wounds fragments often pass quite close to the blood-vessels without injuring them in any way. Arterial bleeding is therefore of comparatively rare occurrence in gunshot wounds, even though the wounds themselves may be large and in several parts of the body. When the shell fragments strike bones, the bones are generally fractured to pieces, but it sometimes happens that only the superficial layer is sliced off, or the bone merely fissured. Shell fragments may be considered as aseptic, hence a wound caused by a small shell fragment generally heals by primary union. Of this we had several instances in the present war. We found, however, that if a piece of cloth entered the wound along with the fragment of shell, there was always danger of the cloth being left behind when the shell fragment was extracted, in which case suppuration was sure to follow. Whenever, therefore, the healing process is retarded by suppuration, a careful search should at once be made for the presence of foreign bodies such as pieces of cloth in the wound cavity. Once these are removed the wounds heal very quickly. The number of wounds inflicted on one person differs greatly; often they are more than one, sometimes they amount to several dozen or even over one hundred. The size of the wounds also differs greatly, from mutilation of whole body to wounds as small as a millet seed. It is obvious, therefore, that in the naval battles the number of the wounds greatly exceeds that of the wounded persons.

There is no definite classification of gunshot wounds, but we find the following list shows the character of the wounds fairly well.

Table of number of wounds classified (from the beginning of war to the battle of the Japan Sea):

Contusion	480
Abrasion	212
Incised and punctured wounds	26
Wounds with loss of soft tissues	53
Lacerated wounds	691
Blind wounds	224
Perforated wounds	113
Pulverized wounds	43
Mutilated wounds	129
Burns and scalds	129
Concussion of labyrinth; rupture and congestion of tympanic membranes	116
Compound fractures, simple fractures, and dislocations	237
Explosive wounds	570
Asphyxia	25
Drowned	716
Total	3764

(This table exceeds the actual number of killed and wounded persons, as one person often received several wounds.)

Location of the wounds in the killed and wounded:

Wounds of the head, face and neck	808
Wounds of the chest	157
Wounds of the abdomen	58
Wounds of the upper limbs	625
Wounds of the lower limbs	728
Wounds of the back, loin and buttock	189
Pulverization of whole body; burns and scalds of whole body	527
Asphyxia	25
Drowned	716
Total	3833

(The number of wounds exceeds the number of killed and wounded, as one person often received several wounds.)

Referring to the above table we see that contusions and lacerated wounds came highest: this may be a specific character of gunshot wounds. The great number of explosive wounds were due to wounds inflicted at the time of sinking of the *Hatsuse* and the *Takasago*.

WOUNDS OF THE IMPORTANT PARTS.

To illustrate some of the more interesting wounds of important parts the following short descriptions are appended:

1. T. K., boy of the *Tokiwa*. In the battle of Urusan on August 14, 1904, a semilunar lacerated wound of 3.5 centimeters was inflicted on the anteroinferior angle of the left parietal bone. On admission to Sasebo Hospital on the 15th he was apathetic but there was no motor or sensory disturbance; on the 18th sud-

den attack of nausea and fainting followed by general convulsions appeared.

The wound was at once cut open, and the bone being fissured 3 centimeters and slightly depressed, the part was trephined and a blood clot of 3 or 4 centimeters in width and a half centimeter in thickness was found. On removing it blood oozed from the diploic vein; this was stopped by plugging; after the operation two or three slight convulsive attacks occurred, but after that he made a good recovery and was discharged on October 17.

2. J. W., signal man of the *Fuso*. He was wounded on the signal station of Namakoyama on November 30, 1904. A lacerated wound on the left parieto-occipital suture and a hole of the size of a pea in the bone was present, from which cerebral substance was escaping.

On December 2 he was admitted to the hospital ship *Kobemaru*. At the time his mental power was confused but his speech clear, and he complained of headache and shooting pain; there was no disturbance of sensation or motion, the hearing was clear, but almost complete right hemiopia of both eyes was present. In the hospital ship depressed pieces of the bone were extracted, and beneath the dura mater pieces of bone and blood clots were found which damaged the brain substance. On December 28 he was transferred to Sasebo Naval Hospital. At his admission the wound on the head was nearly healed but the hemiopia was persistent, also headache and lightning pain toward occipito-temporal region was complained of. In the hospital eyesight recovered more or less, but the course was tedious. He was transferred to Yokosuka Naval Hospital on May 15, 1905.

3. T. S., seaman of the *Nakhimoff*. He was wounded on May 27, 1905, in the battle of the Japan Sea and captured. In front and above the left parietal protuberance and to one centimeter left to the sagittal suture a wound of 1.5 centimeters long was present which passed through the bone and reached to the brain. Reaction of the pupils was sluggish, the right lower limb was slightly movable but its action was greatly impeded, the action of the right upper limb was also lessened, urine was involuntarily discharged, knee-jerks were lessened. The wound was cut open on the 29th soon after admission to Sasebo Naval Hospital, where an inlet of about one centimeter in the bone was found and an irregularly rounded disk of bone was extracted. No shell fragment was found in the wound. After the operation the action of the right limbs returned gradually, and on July 17 he was discharged completely cured.

4. R. Y., stoker of the *Mikasa*. Received the following wounds in the battle of the Yellow Sea on August 10, 1904: Lacerated wound of the face with fracture of lower jaw; lacerated wound of the left eye; blind wound of the left thigh.

The lower lip was torn off, and the upper and lower incisors were lost; there were fractures in both rami of the lower jaw, besides destruction of the left eye; and numerous small explosive wounds were present in the chest and upper and lower limbs. He was operated upon in the following way: (1) The soft parts were separated from the body of the lower jaw and the fractured pieces were sutured with silver wire. (2) A skin flap was cut up from the right cheek and right wing of the nose and brought down to form a lower lip. (3) Adhesion of the upper lip to the left corner of mouth was separated and a semilunar incision was made in the left cheek, the right corner being cut open wide so as to obviate disfigurement of the lips. By means of the above operations and the application of false teeth the patient's powers of mastication and articulation were much assisted.

5. H. S., senior sublieutenant. He was wounded on March 27, 1904, on the *Mikazamaru* when second blockade of Port Arthur was being attempted. A large perforated wound on the left supraclavicular region, probably inflicted by the shell of a small-bore gun, was present, its inlet was nearly round, measuring 9.5 centimeters vertically and 7 centimeters transversely; the exit was oblong and smaller in size than the inlet, the two orifices being only separated by a flap of skin. A large wound cavity was formed, and both the superficial and deep muscles on the left side of neck were destroyed; also, the apex of the left lung and the brachial plexus were more or less injured. He suffered from spitting of blood and emphysema around the wound though the progress of the wound was very good; but during the whole course he suffered constantly from hyperesthesia, neuralgic pain, loss of power, and eruptions like herpes of the left upper limb. He left Sasebo Hospital relieved on June 26, 1904.

6. N. F., bugler of *Irtuish*. He was wounded on May 27, 1905, in the battle of the Japan Sea—having a penetrating wound of the size of a 20-sen piece on the right side of sixth dorsal vertebral spine and passing deep into the spinal column. He had also a blind wound of the size of a pigeon's egg on the right shoulder. He suffered from hemiplegia and retention of urine, and died on June 9 of gradual exhaustion; at the post-mortem a fragment was found in the spinal cord by perforating through

the right side of the base of the spine of the seventh dorsal vertebra; the cord above the injury was normal, whilst the part below it had altered to a mud-like substance.

7. K. T., seaman of the *Iwate*. He was wounded on February 9, 1904, in the battle off Port Arthur. A penetrating wound of the right axillary region and a perforating wound of the right arm were inflicted. At first fracture of the rib and penetration of the thorax were suspected, but after the injuries spitting of blood, shortness of breath, and dulness below the third intercostal space on the right side, combined with moist râles on auscultation, confirmed us in our suspicions. On February 27 the wound below the armpit was opened wide and a fracture of sixth rib found; after removing the fractured ends a foreign body was searched for, but nothing was felt. Subsequently several examinations with Roentgen rays revealed the presence of a fragment in the part corresponding to the inferior angle of the right scapula; after the resection of the eighth rib an iron fragment 1.7 centimeters dimension was extracted. After the operation the wound soon closed, but his chest was affected by burns from the Roentgen rays.

Second, as to the

SANITARY ARRANGEMENTS DURING THE WAR.

There is nothing special about the sanitation of a warship, either in peace or in war time; but it is to be observed that men-of-war during peace time for the most part are stationed in naval and other ports, where provisioning is easy and abundant and the crews can get their regular turns at shore leave. In war time the ships are mostly cruising away from land; fresh provisions and supplies are obtained with less regularity, and the shore leave of the men is entirely stopped. Coaling at sea or at the base stations gives a constant succession of hard work to officers and men alike, and engineer sections are never at rest, not even when the ship is at anchor. Steam must always be kept up in readiness for any sudden emergency, the watches are more than doubled, the labors of the crews are many times multiplied, and the hours of sleep and rest are reduced to the physiologically necessary minimum.

It is comparatively easy during war time to prevent the introduction of infectious or venereal diseases; on the other hand, infectious diseases, if once they break out, are serious obstacles to the fighting efficiency of the crew. Our surgeons have throughout the war exercised great vigilance, and, with the

exception of an outbreak of dysentery, which put in a transient appearance before Port Arthur, we have been singularly free from all infectious maladies.

RATIONS.

Up to 1884, the men received a money allowance instead of food, each ship had its own rations, and the crews were allowed to choose their own food, very much according to individual taste. This system encouraged the men in their fatal fondness for an overproportionate amount of rice with their meals, and the disturbance of the physiological equilibrium caused thereby led to a large and steadily increasing number annually of "Kakke" cases, which seriously interfered with the efficiency of the force. A reform in the food supply became an absolute necessity, and in 1884 a new system was adopted by which rations of food took the place of a money allowance. The reform was not carried out without serious opposition. Several minor alterations have been made since that time, but the principle has constantly been maintained of observing a balance of nitrogen and carbon in the food supplied so as to preserve undisturbed the physiological standard requisite for health.

The following statistics will, I think, be found of interest:

Health average for the last three years in ships of the standing and other squadrons:

Total percentage of sick	3.87
Total percentage of men in bed	1.19
Total percentage admitted into hospital	0.66

Health average for 1904 in the combined fleets:

Total percentage of sick	3.32
Total percentage of men in bed	0.72
Total percentage admitted into hospital	0.26

Health average for January to June, 1905, in the combined fleets:

Total percentage of sick	3.01
Total percentage in bed	0.65

I should observe that during war times there are, of course, more cases of wounds and other injuries, but cases of venereal disease become less and less frequent. We paid much attention to this subject before the outbreak of the war, bringing the subject before our men by means of lectures, moral instructions, and private exhortations. In spite of all our efforts a good many of the men went beyond the limits of prudence during the last few weeks of waiting at "Sasebo" previous to the declaration of war, and we started for Port Arthur with a comparatively long list of venereal cases, which, however, speedily succumbed to the treatment they received on board. Since that time the men have been perforce kept out of the way of contamination.

The amounts of the rations given during this war were increased by 20 per cent for all the men following the ordinary dietary scales, but the quantity of rice supplied was kept absolutely below 12 ounces, and by the observance of this rule we managed to keep the health of the whole force in a good condition for the period of the long campaign.

SCALE OF DIET FOR THE CREW.

Daily: Biscuit 6 oz., or bread 8 oz., rice 12 oz., crushed barley 4 oz., preserved meat 5 oz., or fresh meat 7 oz., preserved or fresh fish 5 oz., dried vegetables 3 oz., or fresh vegetables 15 oz., tea leaves ½ dram, roast barley 1 dram, sugar 6 drams.

Weekly (for cooking purposes): Peas or beans 2½ oz., wheat flour 2 oz., sugar 3½ oz., soy 3 oz., vinegar ½ oz., sesame oil 1 dram, salt 1½ oz., fat 1 oz.

Nightly (for supper): Biscuit 3½ oz., or bread 5 oz., tea ½ dram, sugar 4 drams.

Officers and warrant officers are allowed to receive money in lieu of rations. They are more careful in the choice of food and have more regard for the laws of health. An exception is also made in the case of torpedo-boat crews, who are likewise permitted to draw money in lieu of rations. The number of these men is, however, comparatively small, and they have frequent access to ports and small harbors where they can buy themselves supplies of fresh provisions. Both the officers and the men on board these boats are well aware of the importance of a regular and wholesome diet. They never fall into excess of any kind, and when bread is not to be procured take a mixture of rice and crushed barley boiled together. The health of the torpedo flotilla has been as excellent as that of the men on board the larger warships.

SUPPLY OF PROVISIONS.

Our ships in peace time obtain their supplies when in the naval ports from the victualling office, and when in other harbors from the agents. During the present war two victualling ships were fitted out for the sole use of the combined fleets. These ships were provided with cold storage arrangements for keeping meat and vegetables. Bullocks also were carried on board, and slaughtered as necessity required. The beasts were examined by veterinary surgeons at the victualling office before being shipped, and again on board, after being killed, by the ship's surgeon.

Our warships carry no baking ovens, the bread being sent to them by transports from the base. During the foggy season

last year the transports were frequently detained by fogs, so that the bread grew mouldy and many thousand pounds of it had to be thrown away. This experience taught us to overbake our bread, and in this way the danger of its going mouldy was obviated. At one time we thought that it would be necessary to organize baking ships for the supply of the fleets, but the scheme never materialized. The two victualling ships are sent home alternately to lay in fresh supplies, but whilst one is at home transports are continually bringing fresh provisions, which they transfer to the victualling ship remaining with the fleet. In this way we have always managed to have a good supply of provisions for our ships, and there has never been any shortage. Some of the cruisers, however, when on scouting duty have had to make out with biscuits and canned meats, as all fresh provisions were exhausted owing to their length of absence from the base.

WATER-SUPPLY.

Ships which possessed evaporators used distilled water for all purposes, and the supply was in all cases sufficient. Destroyers, torpedo boats, and special service vessels are as a rule supplied from water-supply ships. There are two water-supply ships fitted with distilling apparatus which can distil about 300 tons of water each per diem, and two water transports of 5000 tons together, besides colliers and transports which served as auxiliary water-carriers. The ships were thus kept well supplied with water not merely for drinking, cooking, but also for washing and bathing, for both of which liberal provision was made, frequent fresh-water baths being very good as preventives of boils, etc. Salt water baths were always provided for the crews after coaling, together with an allowance of fresh water for use after the bath.

CLOTHING.

For use in cold weather, the following additional articles of clothing were provided:

Officers and warrant officers: 1 woolen muffler, 1 pair of thick woolen gloves, 1 woolen undervest, 1 extra overcoat.

For the men: 2 pairs each of thick woolen gloves, long woolen stockings, and thick-soled Japanese socks, 1 woolen undervest, 2 pairs of flannel underdrawers, 1 pair boots, 1 extra overcoat, 1 pair of straw boots. The crews of torpedo boats and destroyers had further five extra blankets per man. For use in hot weather, large-brimmed straw hats were specially provided.

As a result of our precautions we note that frost-bites were almost unknown during the cold season throughout the fleet, and that at any rate no case of frost-bite was admitted to hospital. None of the men that wore the straw hats when working on deck during the hot weather suffered from sunstroke, nor were any of the men in the engine room affected by heatstroke in spite of the high temperature of that part of the ship. Our stokers were instructed to drink as little as possible. Their usual beverage was cool distilled water, but sometimes, as a treat, they were allowed water mixed with arrowroot and sugar.

WAR TIME WORK.

During an engagement everybody on board a ship is working as hard as he can: but the hardest part of a seaman's work in war time is coaling, an operation most laborious for officers as well as for men. During the blockade of Port Arthur our men had from three or four to five or six hours of coaling on the average twice every week while at sea, and sometimes also at the base station.

On board the smaller cruisers, destroyers, and torpedo boats in close contact with Port Arthur during the blockade, or engaged in scouting work, the work was incessant. Ordinary routine work was almost entirely suspended, and when the men were not at work they were either eating or sleeping to make up for lost rest. In any case the life of a man-of-war is far more strenuous in war time than in peace, yet the good health of our men under these trying conditions is shown by the following statistics of body weights based on the results of our half-yearly examinations:

	kan.		kan.
March, 1902.....	15.811	September, 1902.....	15.305
March, 1903.....	15.783	September, 1903.....	15.235
March, 1904.....	16.009	September, 1904.....	15.577
March, 1905.....	15.997		

The daily average total of the crews in the combined fleets is 23,506.

RECREATION.

Life on board a man-of-war during a long expedition is always monotonous, and the men have no opportunities of going ashore. Our men have indeed been full of patriotism and have borne without a murmur all the hardships of their service; nevertheless we have felt that recreation in some form or other was necessary to their well-being.

Whenever opportunity has allowed the men have been encouraged to sing military songs, and to practice "Kenjutsu" (fenc-

ing), "Jiujutsu," and wrestling. Presents of various articles from home and abroad have given them great pleasure, and been a great incentive to renewed energy for their country's cause. Journals, papers and books sent by friends from every part of the world have been received with great joy; but the greatest of all pleasures have been the letters received from relatives and friends at home. Japanese ladies, and foreign ladies living in Japan, have been very active in works of benevolence for the men at the front, and this has been much more the case in the present war than it was in the China war ten years ago.

HOSPITAL SHIPS.

In the present war we have had two specially fitted hospital ships, the sister vessels *Kobe-maru* and *Saikio-maru*. They are ships of about 3000 tons each, and each contains 186 beds, of which 18 are for infectious cases, and 12 for officers.

My idea at the beginning of the preparations was that it would be better to have two hospital ships of from 3000 to 4000 tons each, rather than one ship of larger dimensions. By having two ships we can make better provision for the speedy transference of our patients from the sick-berths of our warships to the wards of the base hospital, where they can be treated with greater chances of success.

We have not attempted during the present war to transfer our patients by bringing the hospital ship alongside of the man-of-war for that purpose. We have merely brought her somewhere near, and sent our patients across by steam launches or boats. We found that sick men's hammocks were the most convenient vehicles for transferring our patients from the ships to the boats.

The proper employment of hospital ships entails much thought and consideration from the surgeon-in-chief of the fleets. Except at the battle of the Yellow Sea we had no need to send our wounded directly from the warships to the hospital ships. Our hospital ships were always stationed at the base during action: the Russians allowed theirs to accompany their squadrons, but unfortunately had but little opportunity of availing themselves of their services.

INFECTIOUS DISEASES AND THEIR PREVENTION.

The only infectious diseases which made their appearance on board our ships during the campaign have been enteric fever and dysentery. Cases of enteric fever will occur sporadically on war vessels even during peace time. Typhoid fever showed

no special increase during this period; whenever a case occurred the possible sources of entrance for the morbid germs were carefully investigated, but never with success. We are quite sure that the *virus* has in every case come from outside, and not been in the ship itself. We infer this from the fact that we have never had more than three or four cases occurring on any ship at any one time. The total number of typhoid cases from the beginning of the war to the end of June, 1905, has been 241. Whenever typhoid cases appear they are at once sent on board the hospital ships, and everything in the way of bedding, clothes, etc., likely to have come in contact with the patient is thoroughly disinfected.

A few cases of dysentery broke out in the fleets during August and September of last year, while our ships were engaged in the blockade of Port Arthur. This outbreak caused us much anxiety for the time, but, thanks to the strenuous labors of our surgeons, the danger soon passed over. I believe that flies were responsible for the outbreak. These insects invaded the ships in enormous numbers whenever colliers or transports were brought alongside, and whenever boats were sent to inspect Chinese junks they invariably brought back clouds of flies with them. Everything was done on board our ships to exterminate the flies, and orders were given to have all food thoroughly well cooked before eating. In due time the dysentery disappeared. The total number of dysentery in the whole fleet amounted to 151 during the period ending June, 1905.

WOUNDED IN THE JAPANESE FLEETS DURING RUSSO-JAPANESE WAR.

(From the Beginning to August 15, 1905.)

Battles and Dates.	Killed.	Wounded.	Total.	Termination of the Wounded.			
				Deaths.	Recovery	Invalided.	Under treatment.
Attack upon Port Arthur (Feb. 9, 1904)	3	69	72	6	59	3	1
Battle of the Yellow Sea (Aug. 10, 1904)	65	161	226	6	133	17	5
Battle off Ulsan Bay (Aug. 14, 1904)	36	96	132	10	80	3	3
Naval Artillery Brigade at Port Arthur (from June 26 to last day of Dec.)	30	313	343	27	258	20	8
Battle in the Japan Sea (May 27 and 28, 1905)	88	611	699	29	470		112
Other petty battles and accidents (1904–05)	1669	541	2210	39	470	30	2
Total	1891	1791	3682	117	1470	73	131

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE STERILIZATION OF DRINKING-WATER FOR TROOPS IN THE FIELD.

That disease among troops engaged in an active campaign is more to be feared than the enemy's bullets is a well known fact. Among the diseases most dreaded by commanding generals is typhoid fever, owing to the fact that this affection is nearly always water-borne. The promiscuous use of any drinking-water that is handy makes soldiers very prone to be affected by it. With proper care this disease is a preventable one, as has been illustrated by the Japanese during the late war in the Far East. The regulations in regard to the drinking-water laid down by the Japanese authorities were very strict. The results certainly justified them, and in the future other armies engaged in warfare will doubtless adopt them.

During the month of August an interesting demonstration of the various methods employed for the sterilization of drinking-water was given in England at the Army Service Corps Barracks, Mulbank. An account of these experiments is published in a recent number of the *Lancet*. The methods of purification illustrated were divided into three sections: (1) Those in which the water is sterilized by heat; (2) those in which the purification is effected by filtration; and (3) those in which the addition of chemical agents is relied upon to sterilize the water. Of the six apparatus illustrating the sterilization of water by heat, the principle of the working of five of them was that of heat exchange. Such apparatus are the Laurence, Forbes, Mallock, and Griffiths sterilizers. Dr. Leigh Canney demonstrated an apparatus of his own designing which is simply a boiler delivering 28 to 36 gallons of sterilized water an hour. Canney claims that his apparatus is identical with that employed by the

Japanese army in their successful attempt to eliminate typhoid fever from the ranks. A field service filter was shown capable of delivering 100 to 120 gallons of water per hour when filtering water clear. With muddy water the amount was somewhat less. In regard to sterilization by the addition of chemical reagents the Schumberg process of using free bromine was tested: the time required for sterilization of one liter of water using 0.06 of free bromine was from seven to thirty minutes. After this time the bromine is neutralized by adding a mixture of sodium sulphite and sodium carbonate. Within a period of two minutes the odor of bromine disappears, but the water has a slightly stale taste. Using iodine in the same way the water, it is said, after treatment has no smell and is not altered in appearance; it has no ill effects on the digestive tract or the health generally.

Among the other chemicals tested was permanganate of potassium, which in small quantities destroys all pathogenic bacteria. This last method is largely used in India, a solution of the permanganate being added to the water until a distinctly permanent color remains. These experiments gave considerable satisfaction to the army authorities who witnessed them. No method of water sterilization will eliminate water-borne diseases among troops unless they can be made to understand the grave danger involved in drinking water which has not been previously subjected to some process which renders it free from pathogenic bacteria.

EDITORIAL NOTES.

Resuscitation by Manipulation of the Heart.

A most remarkable case of resuscitation by manipulation of the heart of a patient apparently dead is reported by Dr. W. S. Conkling in a recent issue of the *New York Medical Journal.* The patient, a male forty-seven years old, was undergoing an operation, when it was noted that he was doing poorly, and that the pulse was hardly perceptible. He was given a heart stimulant by hypodermic injection, and artificial respiration was performed, but with no benefit, and in a short time, no pulse being perceptible, the man was pronounced dead. Dr. Conkling then opened the thorax and seized the heart between his thumb and forefinger, and manipulated for a period of from forty to sixty seconds. In a few seconds more the heart began to beat, and the opening into the thoracic cavity was closed. The patient revived, and the

following morning was in a fair condition. The notable point about the case was the time, estimated at about two minutes, that elapsed between the time when all concerned regarded the man as dead and when the manipulation of the heart through the wound was begun. The success that attended this case will doubtless lead other surgeons to attempt this desperate procedure should conditions arise that warrant it.

Superstitions in Regard to Pregnancy.

A French physician has collected and published a number of superstitions still prevalent amongst the lower classes of people in that country. In certain districts of France the peasant woman will invariably during parturition put on her husband's hat, claiming it will hasten labor. In other country districts the parturient woman carries this superstition still further and dons her husband's clothing. The gravest form of superstition was found in the neighborhood of Toulouse, where the women prefer dirty to clean bed linen. Great care is taken by the pregnant woman when she is nearing term to collect and soil as much sheeting as possible. After delivery the supply of foul linen is frequently changed during the puerperium. In another country district the writer observed the use of dirty linen to clean the woman after delivery. These women claim that by the use of dirty linen the danger of catching cold is obviated. Such methods are certainly most objectionable, and yet in spite of them, the writer says, fine children are born and bred.

Lime Water in the Treatment of Warts.

An English physician some time ago accidentally learned that lime water taken internally is almost a specific for warts. When taking lime water for some digestive disturbance he found that a wart that had been troublesome disappeared from his finger. He tried this remedy on other cases of warts, and found that the warts disappeared. He recommends the taking of a wineglassful of lime water after the midday meal, with a little milk. By this method warts will disappear after from four days to three weeks. The simplicity of the procedure will recommend it for universal adoption.

ITEMS AND NOTES.

THE Russian Red Cross has spent about $11,000,000 in the course of the present war.

THE estimated cost of the scientific investigation concerning plague in India for the current year is $25,000.

EVERY physician in Trenton, N. J., has signed an agreement not to accept contract lodge work in any form.

MORITZ BENEDIKT, of the University of Vienna, professor of diseases of the nervous system, has celebrated his seventieth birthday.

THE Emperor of Austria has conferred a life patent of nobility on Dr. Edmund Neusser, professor of medicine in the University of Vienna.

IT is stated that a serious epidemic of cholera prevails among the refugees from the famine-stricken districts who have been crowding into Madras, India, for weeks past.

DR. JOSEPH D. BRYANT, of New York, was chosen to deliver the annual oration on surgery before the American Medical Association at its meeting to be held at Boston next year.

AN epidemic of glanders has appeared at Great Notch, near Paterson, N. J., and steps have been taken by the State Board of Health to prevent it spreading to Paterson and other cities.

THE sixth annual Congress of Criminal Anthropology will meet at Turin on April 28, 1906, under the presidency of Professor Lombroso. An exhibition of criminal anthropology will be held in connection with the congress.

IN France, Germany, Italy, Austria, and Holland (as well as a number of other European countries) a physician is directly enjoined by law from dispensing his own medicines, unless there is no druggist within reasonable reach.

PROF. D. I. MENDELEEFF, the distinguished professor of chemistry at the University of St. Petersburg, completed the fiftieth year of his public professional service, on June 13, and a celebration of his half a century in government service took place on August 30.

A NEW medical school called the Nebraska College of Medicine has been established at Lincoln, Neb. Twenty seven of the physicians of Lincoln compose the faculty. It is announced that the new college, which will form part of the Wesleyan University, will have courses in medicine, dentistry, pharmacy, and nursing.

AT a recent meeting of the directors of the Tennessee Medical College it was decided that this institution should become the medical department of the Lincoln Memorial University of Cumberland Gap, Tenn., and that the new hospital now being built by the college should be known as the Lincoln Memorial Hospital.

AT the next meeting of the Mississippi Valley Medical Association, to be held in Indianapolis, Ind., October 10 to 12, the annual addresses will be delivered by Dr. Arthur R. Edwards, of Chicago, on "Certain Phases of Uremia: Their Diagnosis and Treatment," and by Dr. W. D. Haggard, of Nashville, Tenn., on "The Present Status of Surgery of the Stomach."

THE National Negro Medical Association held its third annual meeting in Richmond, Va., on August 22 and following days, under the presidency of Dr. John Hunter, of Kentucky. The opening session was called to order by Dr. R. E. Jones, of Richmond, and an address of welcome was delivered by Mayor McCarthy. The next meeting will be held in Philadelphia. Dr. Jones was elected president for the coming year.

LEPROSY is said to be increasing in Roumania. Till 1895 no special precautions were taken, the disease not being considered contagious. Since then, however, so many cases have been discovered that the authorities became alarmed, and the rebuilding of an ancient monastery at Arnota, on the seashore, for the interment of lepers was resolved on. It is alleged that the prevalence of the disease has greatly increased in the districts through which Russian forces passed in 1877-78.

ACCORDING to the statistics of birth for a year, just published, the number of babies born in Manhattan was about 75,000. Of the 60,000 recorded births, less than 12,000 were of American parentage. The Jews came first with 16,000, and the Italians came next with more than 11,000. The most striking and melancholy commentary upon the conditions among the poor, in what may be termed the foreign quarters of the city, is the fact that a fifth of all the children born do not live a year, and more than 14,000 of them do not pass their fifth birthday.

It is proposed to remodel all the old hospitals of the navy, says *American Medicine*. Some of the buildings are old and out of date, and have been kept up to a state of efficiency as naval hospitals only by the employment of many ingenious devices. It is proposed to have the accommodations at Norfolk increased so as to take care of 250 patients, and to so arrange the building that the facilities for caring for the sick and wounded may be increased to 500 beds in time of war. Probably the largest fund to be expended in any one place will be required at Norfolk. Another important point where the naval hospital must be remodeled is Pensacola. Other improvements all along the line are contemplated.

The health of New York State always approaches its best in June, according to the Bulletin, the diseases of winter having in large measure reached their minimum, and those of summer only to a small degree set in. The autumnal mortality of this State is always the lowest of the four seasons of the year, and generally November has the fewest deaths of any month, but recently June has been taking this precedence. It comes between May, with 1000 more deaths, and July, which under ordinary conditions has the largest fatality in the year. July had a daily mortality of 330 the 150 preceding days of the year, a period of the largest mortalities on record in this State having had an average of 400 deaths; this represents a comparative saving for the month of 2000 deaths.

A recent number of the *Revue des Deux Mondes* contains an article by Professor Loret, of Lyons, in which recent discoveries in respect to embalming in ancient Egypt are described. More than seventy yards of cloth of a width of about 12 inches was used in wrapping a mummy. This cloth was impregnated with a resinous alkaline solution, to which Professor Loret attributes the preservation of the tissues. Ten large jars, carefully stoppered, full of a yellowish powder, have been found in a tomb near Thebes. On analysis the powder was found to contain an aromatic resinous substance and a large proportion of sodium salts, with some sand and clay. The resinous substance is evidently an extract of various aromatic substances, in which myrrh predominates. Cloth dipped in water in which some of this powder was dissolved presents the same appearance and odor as the cloth in which the mummies are wrapped.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Pathologic Changes in Appendicitis.

E. MacD. Stanton (*Journal of the American Medical Association*, June 10, 1905) has studied the pathologic changes in the peritoneum in 185 cases of appendicitis, and of the appendix in 188 cases, all occurring in the Albany Hospital during the last six years, the notes and sections of which are on file in the Bender Laboratory. The relations existing between the character of the lesions and the stage of the disease were particularly studied in all. The histologic changes in appendices removed during the first few days of the disease were essentially similar, and consisted in a severe diffuse inflammation accompanied by focal areas of hemorrhage and necrosis. These latter may increase in extent during the first few days and give rise to macroscopic areas of gangrene, or they may remain microscopic and be quickly repaired. The various anatomic varieties—gangrenous, perforative, and ulcerative—are due to the extent and distribution of these necroses. Evidences of repair are seen as early as the third day, and the process is distinctly reparative in non-gangrenous cases by the fifth day. Even in cases with macroscopic evidences of gangrene, unless a later acute process is engrafted on the original one the repair processes predominate by the sixth or seventh day. Evidence of recurrence was observed in 10 or 15 per cent of the cases after the first week.

Repair is rapid during the second week of the attack; fibroblasts, new-formed blood-vessels, and lymphocytes forming the principal features of the picture. The rapidity of the repair depends largely on the amount of damage done and on the presence or absence of a periappendiceal exudate. By the end of the second week in most cases repair is so complete that new connective tissue may be the only evidence of previous inflammation, but in cases with extensive exudates signs of active organization of the exudate itself are still in evidence. After the second week, except in cases with extensive periappendiceal lesions, the histologic changes are seen chiefly in the more fibrous nature of the new connective tissue, which is still recognizable. In cases operated on a month or more after an acute attack, 78 per cent were cases of a chronic interstitial or obliterative appen-

dicitis, frequently accompanied with adhesions. In 6 per cent the appendices were apparently normal, and in 16 per cent the changes were confined to the mucosa. In no instance were the changes confined to the mucosa in the cases examined during the first ten days of the attack. In this series of cases purulent fluid was found outside of the appendix in 51 per cent of the patients operated on from the third to the tenth days. After the tenth day the number of cases with abscesses steadily decreased, while the number of those with adhesions and without pus rose correspondingly. This, Stanton thinks, was due to the less extensive peritoneal involvement in most of these late operated cases, rather than to resolution by absorption. In a number of cases, however, the massive adhesions indicated the prior existence of extensive periappendiceal exudate. After the third day the exudates on the peritoneal surface contain highly vascular granulation tissue, and he thinks it probable that the high operative mortality between the third and tenth days may be in part due to absorption from the denuded granulating surfaces as well as to the extent of the peritonitis and the bad general condition of the patient.

Tetanus.

T. M. Anders and A. C. Morgan (*Journal of the American Medical Association,* July 29, 1905) give a preliminary report of their statistical study of 1201 cases of tetanus, collected from the literature and by direct correspondence, with special reference to the incidence of the disease in the United States. They find convincing proof that tetanus is invariably the result of the introduction of the germ, and that the so-called rheumatic or idiopathic tetanus does not exist. They also find that it is endemic in all large centers of population, that in some localities where it was formerly common, notably in Long Island, it has become rare, and that occasional small epidemics, traceable to a definite source, occur in limited localities, as, for instance, in hospitals, etc. It appears also that tetanus is more prevalent in the hotter part of the year, that males are more subject to it than females, and that it is less frequent in advanced age. The robust are more susceptible than the weak, and the nervous more than the lymphatic. There is much evidence that the disease is transmissible and may give rise to epidemics. The germ, Nicolaier's bacillus, is rarely introduced by the alimentary tract, but usually through open wounds, all parts of the body being very susceptible.

A number of interesting clinical features observed in the cases collected are related, and it was noticed that the characteristic symptoms, especially trismus, were generally present. The diagnostic importance of the tonic contractions as opposed to the intermittent ones in certain other conditions that stimulate tetanus, such as strychnine poisoning, is emphasized. The authors found that their studies supported the earlier ones as regards the mortality, which decreases gradually after the tenth day and rapidly after the fifteenth. The study showed clearly the value of immediate radical local treatment, and that the most important thing is to open the wound freely in all directions under general anesthesia. Many patients were more or less benefited by the local carbolic acid treatment, and some observers report good results from the local use of ice or freezing mixtures or treatment in a cold room. For palliative treatment, chloral and the bromides appear to have been most extensively used. Calabar bean has been much employed, and also morphine, which should be used with caution on account of its inhibitory action on the respiratory centers. There is no question as to the value of antitoxin as a prophylactic; the testimony is uniformly in its favor. It should be used in any case in which there is suspicion of tetanus infection. In a well developed case of the disease it has no appreciable beneficial effect, neither reducing the mortality nor hastening recovery.

Surgical Hints.

The September number of the *International Journal of Surgery* contains the following hints:

In small incised or punctured wounds of the hand it is always desirable to carefully trim off the projecting margin of epidermis, so that the cut is completely exposed. There is then much less likelihood of infection taking place.

Poulticing a sty is never advisable, since it may be followed by marked swelling of the lid and discomfort. It is much better to apply cloths dipped in warm water and frequently changed, their use being kept up for about fifteen minutes at a time.

In cases in which there is a tendency to ingrowing toe nails, the nail should be cut straight across and not trimmed at the sides. A little absorbent cotton or a small strip of tinfoil may be inserted under the nail to prevent pressure upon the subjacent parts.

Itching around the anus is not infrequently due to one or

more small cutaneous tabs, the remnants of hemorrhoids of which the patient may have been unaware. An application of a nitrate of silver solution has sometimes a very beneficial action in relieving the pruritus, even when local anesthetics fail to act.

Before discharging as cured a case of acute gonorrhea, even if there be no suspicion of posterior involvement, it is always well to make a rectal examination of the prostate, to press out any secretion present, and examine it microscopically. The gonococci often linger in the prostatic ducts even when they no longer give evidence of their presence in the urine.

Examination of the Rectum and its Value in Diagnosis.

C. T. Drueck (*Medical Record,* July 15, 1905) speaks of the lack of thoroughness displayed by the average practitioner in handling patients with rectal disorders. These diseases are very common, yet they are often treated without any examination at all, or with only a very cursory one. The author considers the matter in detail, first discussing the subject of taking the history of a patient suspected of having a rectal malady, and a copy of a suitable record form is given. The preparation of the patient for examination by means of enemata, etc., the question of tables and illumination, and examination by inspection are considered at length. It is stated that digital examination is the most important of all methods, as 80 per cent of all rectal cases may be diagnosed in this way, and the other 20 per cent by the history and an examination with the speculum. The technique of digital examination is described in full, and in speaking of instrumental methods the author says that the probe has no place in the diagnosis of rectal diseases, and very little in the treatment, except in fistula. In conclusion Drueck says that rectal surgery especially interests doctor and patient because it can be done in the office under local anesthesia, and the results of careful work are both positive and prompt, so that it is advantageous to devote greater attention to it.

Gall Spider Cases.

Robert T. Morris (*American Medicine,* July 15, 1905) says webs of peritoneal adhesion are found in the bile-tract region so commonly that they have come to be looked upon almost as a normal characteristic of the region by post-mortem examiners. The significance of these webs of adhesion has been overlooked

in the same way as we overlooked the significance of adhesions in the cæcal region previous to our knowledge of the subject of appendicitis. Peritoneal adhesions in the bile-tract region cause symptoms that are commonly diagnosticated as belonging to a large group of gastrointestinal disorders, and the author believes that the subject is one to attract the wide-spread attention of physicians immediately. Rules are given for making the diagnosis in "gall spider cases," as the author characterizes them. He removes the gall-bladder, and prevents recurrence of adhesion by employment of Cargile membrane or of the aristol-film method. The subject is now a new one, but the cases are so common that practitioners will find them frequently as soon as they begin to look for them.

MEDICINE.

Clinical Suggestions from the Study of Five Hundred Cases of Pulmonary Tuberculosis.

H. P. Loomis (*Medical Record,* July 29, 1905) presents a number of very interesting conclusions which are of especial value because they are based on a series of cases selected because of the unusual completeness of the records available. The patients include people seen in private practice, in the large hospitals, and in sanatorium work, so that all classes and all phases of the disease are represented. The first point discussed is concerned with the manner in which the disease begins. Of one hundred cases it was found that in 80 per cent the first presumable evidence of tuberculosis consisted in either coughs or colds (48 per cent), run-down condition (18 per cent), or pleurisy, dry or with effusion (14 per cent). The remaining 20 per cent was about evenly divided between grippe, chills and fever (malaria), pneumonia (prolonged recovery), enlarged cervical glands, and hemoptysis. In only four per cent of the one hundred cases was hemoptysis the first presumable evidence, but in 24 per cent this symptom ushered in the first demonstrable evidence.

The author believes that the great majority of patients who apparently develop pulmonary tuberculosis after the age of thirty had an attack of the disease before. The analysis shows that three and a half months was the average time that elapsed from the actual beginning of the disease to the appearance of tubercle bacilli in the sputum. The study of the features of value in prognosis is based on the records of patients admitted to sana-

torium treatment, and shows among other things that the age between twenty-five and thirty is especially favorable, and that the general vitality and intelligence of the patient and the state of the digestion are of importance; whereas whether one lobe or more than one is involved is of less significance than usually supposed. Fever, hemorrhage, expectoration, or bacilli in the sputum, are of little value in the prognosis unless the case has been watched for a long time. An analysis of fifty-five cured sanatorium cases showed that the average age was high—twenty-nine—and that the long-lived ancestry of the patients was a point of especial importance, but a tuberculous family history was of less import. The average length of life among the tuberculous poor, with no advantages of rest or good food, is a little under two years.

Inhalation of Nitric Acid Fumes.

T. N. Hall and C. E. Cooper (*Journal of the American Medical Association,* Aug. 5, 1905) report the disablement of eighteen firemen, four of whom died, by the inhalation of nitric acid fumes. Two of the deaths occurred on the second day as the direct results of the inhalation, the other two after several weeks as the result of relapse. Eleven of the survivors still have symptoms referable to the accident. The pathology, in the opinion of the authors of the paper, was as follows: The irritating fumes of the nitric acid and the combinations formed with the chemicals employed in putting out the fire, which were deeply inhaled during the violent respiratory efforts of the physical exertion, caused a mild coagulation necrosis of the mucous membrane of the air-passages and the alveoli, and in the two cases that died early there was produced promptly a severe bronchopneumonia. In those dying later the partially healed and susceptible areas were readily excited by exposure to cold into an especially severe bronchopneumonia which rapidly proved fatal. The excessive cyanosis observed in the severer cases is credited largely to changes produced in the hemoglobin of the blood, interfering with its oxygen-carrying capacity. The treatment generally adopted was, they believed, that of an ordinary severe bronchopneumonia. The authors think that at present stimulation, the use of oxygen when indicated, atropine for the edematous exudation, vigorous counter-irritation, with eliminative and supportive measures, offer the most hope in the primary attack. After recovery from this they urge stoppage of work, avoidance

of all exposure, and some months in a warm, equable climate suited for feeble cases suffering from chronic bronchitis. The most important thing of all is the avoidance of anything that may bring about a relapse. In view of the lessened pulmonary resistence it is advisable to keep clear of any possible infection of tuberculosis.

Management of Transmissible Diseases.

D. H. Bergey (*American Medicine*, Aug. 5, 1905) says the general prevalence of some of the transmissible diseases may be attributed to two important causes: (1) The infection of large numbers of individuals through mild and often unrecognized cases; and (2) the failure to enforce the sanitary precautions that would prevent the dissemination of infectious materials. The difficulty experienced in the satisfactory isolation of cases of transmissible disease in private houses calls for the more general treatment of these diseases in proper isolation hospitals. There is still considerable apprehension on the part of physicians and laymen with regard to the possibility of conducting hospitals for the treatment of the transmissible diseases in urban communities without danger to those living in the near vicinity. There are at least four important sources of danger from such hospitals, yet with proper equipment and management all of these dangers may be eliminated. They are: (1) the danger of the dissemination of infectious materials through the drainage; (2) the danger of the dissemination of infectious materials by means of air currents; (3) the danger of the dissemination of infectious materials by insects or vermin; (4) the danger of the dissemination of infectious materials by the physicians, nurses, attendants, visitors, or the convalescents. Each of these dangers can be reduced to a minimum in a well regulated isolation hospital. No one who comes in contact with the patients should be allowed to leave the hospital before taking a full antiseptic bath and making a complete change of wearing apparel.

Phthiriasis.

John Knott (*American Medicine*, July 29, 1905) has made the occurrence of some striking cases of phthiriasis in his practice the nucleus of an extremely interesting and exhaustive account of the various aspects of this condition. The lousy disease (morbus pediculosus vel pedicularis) has figured more

largely than probably most readers had been aware, not only in clinical history, dermatology, and pathology, but in general phrase and fable, in political history, in imperial and ecclesiastical biography, in orthodox theology, and in the endless mazes of heathen mythology. Dr. Knott's paper contains the principal available items from all these sources of information and imagination, and offers most interesting as well as instructive reading. Some of the pedicular lore is certainly very fantastic, and throws a strange light on some of the byways of human thought. In his concluding sentence he offers "the opinion that the scientist who succeeds in plucking out the heart of the mystery of the triplex natural selection topographically displayed in the life history of human pediculi will have done more toward establishing a true theory of parasitic and infectious disease than has hitherto been reached by bacteriologic pathology." This statement of opinion implies that the writer is not satisfied with the germ theory as understood at present.

THERAPEUTICS.

The Treatment of Pulmonary Tuberculosis.

According to G. W. Norris (*Journal of the American Medical Association,* June 17, 1905) the only treatment that has stood the tests of study and experience in tuberculosis is that now in vogue in the various sanatoria throughout the world. Its underlying bases are fresh air and sunlight, constant and unlimited, with regulation of diet and metabolism so that there shall always be a balance on the right side. Early diagnosis and the closest attention to the details of treatment are also essential; they must be absolutely in the physician's hands. Relinquishment of business is not always possible in incipient cases, but it is always desirable. He gives details as to diet, which should be more abundant than that of the normal individual, though overfeeding should be avoided. Rest before and after meals is advised, also only the one heavy meal a day, preferably at noon. Next in importance to hygiene and diet is what may be called the psychic treatment: the physician must study the mental state of the patient in order to be able to exercise the proper influence over him. As regards medicinal treatment, the regulation of the gastrointestinal functions is the most legitimate form of phthisiotherapy. This can largely be effected through the diet, and

vegetable laxatives, such as aloin, cascara, podophyllin, etc., if employed, should be used with caution. No drug should ever be prescribed for any purpose in tuberculosis without a definite indication or object in view. The main thing is to keep up satisfactorily the digestive functions, and to have the liver, gastrointestinal organs, and kidneys in good working order. Special symptoms often call for treatment, but some of these are largely to be controlled by due attention to the general conditions already noted. Cough, for example, can largely be controlled by suggestion or by mental effort, and to a certain extent it is necessary to clear the respiratory passages. When due to indigestion, constipation, etc., the measures already indicated for these conditions will be likely to give relief. When caused by venous engorgement of the lungs, as shown by accentuation of the pulmonic second sound, nitroglycerin is indicated. If it is reflex from inflammation of the pharynx, larynx, etc., local measures may be useful.

The special symptoms of fever, hemoptysis, pain, and insomnia, are mentioned as calling for the particular remedies indicated by their severity or their cause. Night sweats, Norris says, are almost unknown under the modern treatment of tuberculosis, except in very advanced and hopeless cases. Cardiac weakness, as shown by tachycardia, edema, etc., is a serious sign and should be promptly and carefully treated by rest in bed, absolute quiet, freedom from worry or excitement, and the application of an ice-bag to the precordium. As internal remedies, digitalis and strophanthus are failures, and reliance will usually have to be placed on glonoin, camphor, and strychnine. The serum treatment of tuberculosis is considered by Norris as at best only an adjunct and not an essential in the management of the disease.

Hypnotic Cumulative Action as a Therapeutic Guide.

Geo. F. Butler (*American Medicine*, Aug. 3, 1905) discusses the principle of aggravation of symptoms from the standpoint of therapeutic indication, so far as hypnotics are concerned. Hypnotics may be roughly divided into those having cumulative action and those destitute of this. Almost all the synthetics have cumulative action, while vegetable hypnotics as a rule have none. Almost all hypnotics are more or less alterative and antipyretic. The factors underlying insomnia are disturbances of metabolism causing the circulation of toxic products, which interferes with

proper blood-supply and with the sleep habit by introducing an irritating factor on the monarchical vasomotor center at a time when this requires most regular rhythmic action. The cumulative effects of the hypnotics, as shown by their extreme effect hours after their first administration, indicate that this can be secured by broken doses given at intervals, so as to secure the acme of their influence during the hours after twelve midnight, when the influence is most needed. The various alterative effects of the hypnotics serve as an indication that they will counteract the effects occasioned by the products of altered metabolism which are irritating the monarchical vasomotor center of the medulla. The synthetics, which are more potent in these particulars, can be aided and their injurious effects removed by the addition of vegetable hypnotics, like conium and those derived from the Solanaceæ, as well as certain opium derivatives.

Treatment of Gall-stones.

Singer (*Wiener klin. Rund.*, No. 20) has obtained very beneficial results by the administration of olive oil in the treatment of gall-stones. In one case fifty-two gall-stones were passed, some of which were as large as a cherry. The author begins with one tablespoonful a day taken on an empty stomach, followed by a small glass of warm Carlsbad water, and increases to five tablespoonfuls a day. In patients to whom the taste is objectionable the mouth may be washed out before and after taking with a little brandy, or the oil may be administered as a flavored emulsion.

The Therapeutic Value of Ergot in Labor.

J. C. Applegate (*American Medicine*, June 24, 1905) does not regard ergot as an appropriate or safe remedy at any period during labor until the presentation or expulsion of the placenta, notwithstanding the statement in many text-books that it is valuable for uterine inertia. Its physiologic effects on the uterus are unlike the rhythmic labor contractions in that they are less intermitting, more continuous, and predispose to constriction, particularly of the lower segment. Paralysis of the fetal heart from compression, retention of the placenta and membranes, and rupture of the uterus are the attending dangers. Complications of the third stage of labor or postpartum hemorrhage rarely fol-

low the expression of the placenta after the Credé method. He regards ergot as a safeguard and valuable at the end of the third stage of delayed labor, or when uterine inertia has been a factor, also after placenta previa and reposition of an inverted uterus. With a uterus normally contracted the author considers it valueless and rather detrimental when used for the prevention of septic infection, since its tendency is to disturb the venous thrombi and lock too completely within the uterus excreta that would otherwise be liberated. Ergot may be administered by the mouth as a safeguard, but for the control of hemorrhage better results are obtained by hypodermic administration.

GYNECOLOGY AND OBSTETRICS.

Tumors of the Ovary in Children.

A. Schwartz (*British Gynecological Journal*, August, 1905) reports the following case as an example of the great difficulty in the diagnosis of tumors of the ovary in little girls: A girl of thirteen was attacked with sudden pain in the hypogastrium, and in spite of violent vesical tenesmus was unable to micturate. The pain ceased when she was put to bed, and in twenty-four hours all the symptoms had disappeared. A second attack came on a fortnight later. The child had never menstruated. Palpation of the abdomen detected an ovoid median tumor behind the symphysis, reaching almost within a fingerbreadth of the umbilicus, and from 6 to 8 centimeters in diameter. The tumor was smooth and elastic, and was not painful; it was movable and did not fluctuate; its lower pole filled the pouch of Douglas. Neither uterus nor adnexa could be made out. At first the author thought of urinary troubles due to a distended bladder, but the introduction of a sound proved otherwise. The physical examination suggested that the tumor might consist of the uterus filled with blood, but the tumor was movable and the pains disappeared when the girl lay down; moreover, she had never menstruated, and the tumor persisted during ten days' observation. A movable kidney was also thought of, but a cystic tumor of the genital organs seemed more probable, and a provisional diagnosis was made of ovarian cyst. At the operation a dermoid cyst of the ovary was found and removed with a portion of the tube. The patient recovered.

Looping of the Cord.

The frequency of the condition of looping of the cord is estimated by H. C. Jones (*Journal of the American Medical Association,* July 22, 1905) as rather greater than is usually alleged. He thinks it existed to a greater or less extent in nearly half of the cases he has attended, over 1400 altogether. He reports a case that seems to him extraordinary. The signs of fetal life had ceased at the end of the seventh month, but delivery occurred at term, and a macerated fetus was born with the cord wrapped four times around the left leg and once around the right. Delivery occurred without rupture of the membranes. He thinks it possible that death of the fetus did not occur immediately at the time of strangulation of the cord. Its condition and the fact that it was carried to term suggest that a low degree of vitality may have existed for a part of the period. He says it must be apparent that so complicated a looping about the extremities as shown in this case could only have been brought about by instinctive efforts to disentangle them, and compares the impulse here shown with that of animals to free themselves from a tethering rope.

Lumbar Anesthesia in Obstetrics and Gynecology.

B. Mueller (*British Gynecological Journal,* August, 1905) reports that in the Greifswald clinic spinal anesthesia with a combination of adrenalin and cocaine has been tried in thirty-two cases of labor. Tropacocaine was used in nine. The collateral effects of the two drugs are different, but not sufficiently so to make one distinctly better than the other. The method proved beneficial in spontaneous labors during the expulsive stage, especially when the contractions were very painful, and also in obstetric operations. It is less to be recommended in eclampsia; on the other hand it is indicated in cardiac and pulmonary affections, which forbid the use of chloroform. For anesthesia in gynecological operations adrenalin-cocaine and tropacocaine were each employed in ten cases; when the surgical interference did not involve opening the peritoneal cavity the method seemed to answer well, but in peritoneal operations, especially when there were inflammatory changes, its action was uncertain.

THE MEDICAL AGE

VOL. XXIII. DETROIT, OCTOBER 25, 1905. No. 20.

ORIGINAL CONTRIBUTIONS.

CASE OF ADIPOSIS DOLOROSA.

BY J. FLETCHER HORNE, M.D. ST. AND., F.R.C.S.E., F.R.S.E.,
BARNSLEY, ENGLAND.

The extreme rarity of this disease, known also as lipomatosis neurotica or Dercum's disease, occurring in the male, combined with the fact that treatment appeared to be useful, must be my apology for placing this case on record.

L. T. J., aged nineteen years, 5 feet 5 inches in height, was seen by me on February 4, 1903. His mother and sister assisted him into my consulting-room, as the patient was quite unable to walk alone owing to dizziness and vertigo.

The history given was as follows: He had lived in the country all his life and had been somewhat delicate from childhood, suffering occasionally from headache and diarrhea. As he grew up he worked, or perhaps it would be more correct to say he played at work, about the farm; occasionally he drove the family chaise to market, but was quite incapable of undergoing any sustained effort. At fourteen years of age his mother considered that his health failed a good deal: some enlargement of the thyroid gland was noticed, he became subject to fainting fits, occasionally to cough and bronchitis, and this again was succeeded by anemia. For a year previous to my seeing him his friends had noticed that the patient was getting stouter, for during this period his weight had increased from 136 to 189 pounds.

The patient, one of a family of three, was evidently a youth with no nerve force, with strong neuropathic predispositions. His mother had evidently transmitted her neurotic temperament

to him; his elder brother is a confirmed dyspeptic, and the younger sister a martyr to rheumatism. In the parents' case there was no history of syphilis, alcohol, or rheumatism.

At the time I saw him he was evidently suffering from mental depression, anemia, and complained of being easily fatigued and not equal to any mental or physical exertion, low spirits, and disturbed sleep. There was hyperesthesia, especially to sensations of pain, but the skin was healthy and not dry nor hard. The posterior triangles of the neck and the axilla were quite free from swelling, and the urine was normal. On the legs, arms, and chest, but particularly on the abdomen, could be seen large, irregular deposits of fat. From the lumpiness I was evidently not dealing with ordinary obesity, and the case was wanting in the chain of symptoms of myxedema. There was no thickening of the skin, the face showed no signs of flattening, paleness, or loss of expression, nor were the functions of the liver and kidneys interfered with.

Remarks.—When the case was seen the disease of adiposis dolorosa was to me an unknown quantity. I plead my ignorance. I had never heard of it, and not for the first time in my professional life I was puzzled. The case I was dealing with was evidently a peculiar one. It appeared to me that my treatment must be an endeavor to promote tissue change by increasing the activity of the glandular organs, and promote that peculiarly obscure chemical decomposition known as metabolism, in which it is said that the muscle and the plasma act and react upon each other, so that the protoplasm acts on or alters the lymph and the lymph acts on or alters the protoplasm. Later, no doubt, the treatment would reduce the viscosity and increase the rapidity of the blood-stream, and there would be loss of weight throughout the body.

With this object the patient was ordered thyroid tablets (gr. v), pot. iodidi combined with liq. strych., with an aloes and iron pill, ter die; also massage and the inunction of the ung. pot. iodid. applied nightly to the masses of fat.

I was unable to account for the symptom of vertigo. It is, we know, constantly associated with impairment of equilibration. Disturbance of equilibration being the motor aspect of the sensation of giddiness, steadiness in walking or standing requires not only motor action, but sensory guidance, and if the sensory impression be disturbed we necessarily interfere with movement.

The result of the treatment was, shortly: his weight in six

months was reduced from 189 to 120 pounds, with great improvement in his health generally; he could go to church alone, or walk a couple of miles without fatigue, and his vertigo has completely disappeared. I had the opportunity of weighing him again on February 1, 1905, at which time his weight was 116 pounds, but with no return of the adipose tissue, and he appeared in good health.

There is considerable diversity of opinion as to the causes of this peculiar disease. Its nomenclator, Professor F. X. Dercum,[1] admits that the pathogenesis of the disease is obscure. In most cases there is a great accumulation of subcutaneous fat, which is often aggregated into nodules or lumps, and which are often painful to pressure or touch. Rheumatism, alcohol, and syphilis are thought to be predisposing causes. Interstitial neuritis is found present in the subcutaneous fatty tissue, especially in the nodules, and free hemolymph glands present in the tissues of the body generally.

In several cases in which necropsies have been made it has been found that the cerebral convolutions were atypical. Professor Dercum regards this as an interesting coincidence, probably without significance.

Dr. Putman[2] holds that patients suffering from adiposis dolorosa show various signs of defective or anomalous development—the so called "stigmata" of degeneration—as regards their bodily organs or tissues. Probably in this country I am correct in saying that adiposis dolorosa is looked upon as a functional nervous disease associated with obesity[3]—a trophic neurosis. Definite changes in the peripheral nerves are present. It differs from obesity simple because in this condition there is no neuritis present in the nerves of the fatty deposits. Professor Clifford Allbutt[4] is satisfied that the condition is sufficiently definite and peculiar to need a separate description and a name. He considers that the morbid anatomy consists, as far as is known, in an increase of fatty and connective tissue, with degenerative changes in nerves, and that the disease is essentially chronic, with a tendency to be progressive in course.

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ALBUMINURIA IN THE APPARENTLY HEALTHY.

BY W. H. LEITH, M.D., LANCASTER, N. H.

Albuminuria, always a symptom of the most variable significance and importance, possesses a peculiar interest when we undertake to determine its diagnostic and prognostic import in people whose renal and cardiovascular systems present no appreciable alteration of structure.

Notwithstanding the discussion to which the condition has given rise from the time of Richard Bright to the present day, and the attention which the subject has received from medical teachers and writers, both ancient and modern, its diagnostic significance is still variously interpreted and its prognostic import oftentimes disregarded.

To the practitioner whose custom it is to examine the urine of the just and the unjust alike, there soon comes the knowledge that there *is* a group of patients who have albumin in the urine intermittently, or constantly, and present no systemic evidence of renal disease—some recovering, some going on to Bright's disease.

It is not with the expectation of presenting anything original on the subject, but because of its importance, the diversity of opinions, and the misconception of its gravity, that I invite you to discuss it; not from an academic standpoint, but from your own clinical observations, and especially in its relation to that chronic and most insidious of all renal affections—chronic interstitial nephritis or granular kidney.

The medical director of a large life insurance company said not long since that he was daily in receipt of opinions from physicians in good standing that applicants rejected because of having albumin in the urine were in good health, and he deplored the indifference with which this symptom is regarded and the misconception of its significance.

Quoting from a personal letter from the medical director of another large insurance company received since this paper was written: "It is a most important subject to the practitioner, and many times a highly perplexing one to the insurance examiner. During the past twenty years there has been an abnormal reaction from the older theories concerning albuminuria. When you and I were students the term was used synonymously with Bright's disease. Now we hear physicians speak frequently of functional or physiological albuminuria. We have evidence at

this office that there are a large number of practitioners who regard the condition as trifling and not of enough importance to prevent acceptance for life insurance."

Whether or not this is a fair expression of the general sentiment of the profession I do not know, but I do know, from conversation with physicians of whom I have inquired, that there *is* a disposition to underrate the clinical importance of serum albuminuria when the exciting cause is not obvious, and especially when it is present intermittently in people who are otherwise in apparent health.

In discussing functional albuminuria at a meeting of the London Medical Society last December, the president referred to the late Sir George Johnson and Dr. Clement Dukes, who thought that albuminuria was always pathological, and the term "functional" not justifiable.

Dr. Bradford suggested, as possible causes, latent renal disease of an organic character, the subsidence or onset of renal disease, and accidental albuminuria due to extra-renal causes.

Dr. Pavy could not regard functional albuminuria as an incipient stage of organic renal disease.

In reviewing this discussion our own *Medical Record* concludes its editorial thus: "Functional albuminuria is one of the most common affections known, and it is somewhat curious that it has not as yet been definitely decided as to whether the condition is pathological or otherwise. However, the general opinion among physicians is that it is what its name implies, and that the derangement of function is but temporary."

I assume that the *Medical Record* is an exponent to some extent of medical opinion in this country, and that albuminuria occurring in people in apparent health *is* regarded by many as a functional disorder.

Considering the matter clinically, as we are doing, opinions from whatever source are worthless unless based on observations covering a period sufficiently long to determine the ultimate result of each case.

We have a patient in whose urine we have discovered albumin constantly or intermittently for a considerable period; he presents no subjective symptoms; the urine conforms in all other particulars to the standard of health; there is no evidence that it can be accounted for from any present pathological condition, neither is there proof that the kidneys are entirely sound. Shall we disregard the symptom that *is* present, or look upon the kidney as guilty until its innocence is proven? If albuminuria does

occur under normal or physiological conditions, how shall the border-line be determined between the physiological and pathological, except by the subsequent behavior of the malady? Much of the misconception of its true clinical significance is because of lack of opportunity to observe the cases to their ultimate end.

The first expression of many of the chronic inflammatory diseases of the kidney is the presence of albumin in the urine; it may be intermittent in character and be attended by no subjective symptoms, or no other objective evidence of change in the renal epithelium, but its presence in the urine under any circumstances must be indicative of some abnormal condition of the renal epithelium—in fact, every true albuminuria is a direct sign of abnormal perviousness of the walls of the glomeruli due to pathological change, and every persistent so-called functional albuminuria, whether it be termed "cyclical," "intermittent," "physiological," "postural," or "adolescent," has underlying it a pathological cause, and the subject is presented with the belief that albumin is never a constituent of normal urine—that it is always of pathological origin, that it is the most constant, oftentimes the first, and frequently the only, symptom which renders a diagnosis of chronic inflammatory disease of the kidney possible.

At thirty-three Mr. A. was a vigorous man. The discovery of albumin in his urine was accidental; it continued, intermittently at least, for three years following, and was not accompanied by other evidence of disease of the kidneys. At forty-three he was examined for life insurance by a competent, painstaking physician, who found no albumin and no disease of heart or arteries. Five years later—at forty-eight—the diagnosis of Bright's disease was made, and recorded in the town records two years later. This was in all essential features for more than ten years a case of albuminuria in a man who was apparently healthy.

Mr. B., at fifty-three, appeared to enjoy good health, but at times had a trace of albumin in his urine. The urea output was normal; there were no casts; the cardiovascular system presented no tell-tale symptom; there was no increased vascular tension and no hypertrophy. How long albumin had been present is not known; it was first detected in the spring; the following summer he was examined by a competent physician, several specimens of urine being provided; kidneys, heart, and vessels pronounced sound; presented for insurance and accepted. He contributed to the company's treasury two years, then to the

vital statistics of the town (Bright's disease); and to my knowledge an occasional trace of albumin in the urine of a man around fifty is a danger-signal that should *never* be disregarded.

Mr. C., aged forty-six, a hard-working man, always at his post; presented for examination by insurance solicitor; never sick; never employed a doctor; admirable physique; no evidence of impairment of health except one-eighth of one per cent albumin in urine; has now been under observation four years; albuminuria continues, also good health, but heart is becoming hypertrophied, and vascular tension appreciably increased. We are reminded in this case that heredity may be an important influence, and that arteriosclerosis may begin in the kidney; that albuminuria may be the first symptom, and the victim still appear to enjoy good health.

I will select only one case more—a young man, aged twenty-four. Has had albuminuria for three years or more; has had chemical and microscopical analyses by myself and an expert repeatedly; small percentage of albumin almost constantly, but sometimes absent; urea output still normal; no casts, epithelium, or cells. He is in good health and works every day, and makes no complaint except for my assiduous attention. During the past year his heart has become heavy in action, and is much accelerated, with disturbance of rhythm on unusual exertion or on going upstairs, and the apex impulse has moved appreciably to the left. Incipient interstitial nephritis with secondary hypertrophy.

In presenting these illustrative cases I have purposely omitted details, and shall ask you to believe in the accuracy of my observations, doing as you will with my conclusions. They are not unique cases, but conform to the behavior of the average in my experience, and no doubt in yours. Possibly I have pursued them more zealously because of opportunity and my thirst for knowledge on the subject.

We might, if time permitted, discuss albuminuria occurring as a remote sequence of measles, diphtheria, and other eruptive and infectious fevers. Spontaneous recovery is the course laid out for such by pathologists, but not all follow it. Bright's disease often ensuing after years of insidious impairment of the renal epithelium, in which the only manifestation was a slight albuminuria.

I have noted two cases following measles in young people of especial vigor, never having had any other sickness—one male, aged twenty-two, and a female, aged twenty. Female

recovered after three years of persistent albuminuria. Male still under observation after sixteen months.

One postdiphtheric case died of Bright's disease after twelve years, having enjoyed good health in the meantime; another, a sequence of scarlet fever, still persists after eight years; and others in which age, history, and heredity are interesting features.

We are reminded that in granular kidney albumin may vary greatly in amount; that it may be absent altogether for long periods; that casts and cells may not be present; that the malady may be latent for a long time, and have had its beginning in early life—in fact, that some of the so-called "functional" albuminurias are early cases of granular kidney.

"It is, of course, dangerous to make a diagnosis of disease upon a single physical sign, but the converse is also true, that it is equally dangerous to assume that because no other abnormal signs can be discovered the one physical sign may be disregarded and the individual pronounced healthy."

I, at least, am going to hold the kidney under suspicion, even if it cannot be pronounced guilty on the evidence of one witness, until its innocence is proven, or until other witnesses appear to confirm its guilt.

Possibly I have not made clear the point which my experience emphasizes, that there is a step in the early period of chronic interstitial nephritis when albuminuria is the only manifestation of the disease. The relation is a close one—closer than is generally thought. Dr. Samuel West, lecturer on principles and practice of medicine at St. Bartholomew's Hospital, London, had a long series of observations made by Dr. Levison, in 1899, for the purpose of his Lettsomian lectures. A diagram was prepared from the collated statistics demonstrating the curve of granular kidney and that of albuminuria to be of the same character. Dr. West also calls attention to the fact that the commencement of the pathological process which leads ultimately to granular kidney may be referred to early life, even to the period of adolescence or puberty—the very age at which functional albuminuria is most frequently described.

Tessier and Merly were able to follow twenty-eight cases of functional albuminuria for periods of nine to thirteen years. Fifteen per cent of them developed Bright's disease.

Personally I have never seen an albuminuria, except in transitory or ephemeral conditions, where the cause was readily ascertained that did not ultimately present more or less evidence

of departure from good health, some going on to chronic disease of the kidney. On the other hand, it is affirmed that no well authenticated case of functional albuminuria has come to autopsy, and "the pathology of the condition is still a matter of theory, and is as varied and speculative as theories so supported usually are."

Bright, who first identified albuminuria with kidney disease less than a century ago, was censured because of his synonymous association of albuminuria and the disease which bears his name, and his course is now spoken of as the "error of former times."

Are we not making a more serious mistake in regarding albuminuria as but an accident of health?

THE LENS A USEFUL MEANS FOR CAUTERY.

BY W. I. ST. JOHN, M.D., DETROIT, MICH.

Never having seen anything in medical or scientific journals upon this subject, and thinking it might be of value to the medical profession, and as well, perhaps, to the world at large, on account of its ease of application, I submit the following:

A small boy was a few weeks since brought into my office with a puncture in the index-finger of the left hand made a week previously by a small pet dog. The wound had healed externally, but the finger was swollen and inflamed, with an appearance of a septic process in progress. There appeared to be a little oozing from the wound, and the better to examine it I took it into the sunlight, using a small lens for the examination. While there the thought occurred to me, why not cauterize it with the concentrated sun's rays? which I immediately proceeded to do, causing the little fellow to exclaim some by the heat used, and scorching the tissues a little. I did not stop there, but passed the lens about in order that the whole surface could be exposed to the action of the heat and light. I thought, and so did the mother and son, that the swelling and redness both diminished while the lens was being used. Fearing to trust the lens cautery altogether I touched the place of puncture with fuming nitric acid, but its actual use could not have been great as the wound had been so long healed previous to presentation.

I gave them a solution for local application, and told the mother if it were not better by nine o'clock that evening to let me know.

I did not hear from them for one week, when they came in

again. This time the finger was all right, being normal in every way, but the boy had injured it again just below the former wound, and a small patch of redness occupied the posterior part of the hand and second finger, which soon disclosed itself as erysipelas, and which responded to the appropriate treatment.

The case itself is not so remarkable, but it brought to my attention the lens as a useful and powerful means of cauterization without the direct application of any substance or body to an infected wound or area, and its range of application is great, as any degree of temperature may be obtained by varying the size of the lens, and wide areas may be covered at any temperature desired. I believe its usefulness is almost unlimited, as much of germ life can be destroyed by the heat and the germicidal action of the light rays concentrated on infected tissues.

The germ of erysipelas is destroyed at 120°, and this and higher temperatures can readily be employed, and I would like to hear of its effects in diphtheria and other locally infective diseases. It would also undoubtedly work well in the bite of venomous reptiles and insects, as such poisons can be rendered inert by disintegration under the action of heat and light.

I have had some other experience in the use of the lens that I consider valuable, at least to myself, and I recommend its trial to any of the profession who are interested.

The International Association for Labor Legislation is prepared, says *American Medicine*, to offer the subjoined prizes for the best effective means that can be devised for the prevention of lead-poisoning in men employed in mining, smelting, and refining lead ores, and in persons who manipulate lead compounds or are otherwise brought into contact with them. A prize of $1250 is offered for the best treatise on the prevention of lead-poisoning in mining and milling lead ores; a prize of $2500 for the best treatise on the prevention of lead-poisoning in smelting and refining works; two prizes, (1) $625, (2) $375, for similar treatises relating to white-lead works, paint works, manufacture of electric accumulators, etc.; four prizes, (1) $375, (2) $250, (3 and 4) $187.50 each, for house, ship, and coach painting, etc.; and four prizes, ranging from $375 to $187.50, for the best treatise on the prevention of lead-poisoning in trades in which raw and manufactured lead are consumed or handled, as in type foundries and printing offices. The essays must be sent in to the International Association for Labor Legislation, Basle, Switzerland, not later than May 15, 1906.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE EFFICIENCY OF AMERICAN MEDICAL COLLEGES.

Dr. Nicholas Senn, in a recent article published in *Collier's Weekly*, makes the statement that at the present time it is not necessary for the medical student to go to Europe to complete his medical education. He says that with the rapid increase of our population, and national as well as individual wealth, our medical schools have gradually raised the requirements of admission, lengthened the time of college attendance, equipped laboratories, secured adequate clinical facilities, and initiated a vigorous final examination, until some of our leading schools, like the Harvard Medical School, the College of Physicians and Surgeons of New York, the University of Pennsylvania, the Johns Hopkins Medical School, and Rush Medical College, Chicago, compare well with any of the European schools. Fortunately, the elective system in teaching, so common in Europe, has found but little favor in this country. It can be safely stated that didactic teaching by lectures, recitations, demonstrations, and laboratory work is carried on in a more thorough and systematic manner in this country than anywhere else. We have hospitals for clinical teaching in our large cities which in the near future are destined to overshadow the famous clinical institutions of the Old World. Our students waste no time in beer gardens and the field of honor. They come to our medical schools with a firm determination to master the principles and practice of their chosen profession as thoroughly as possible during their pupilage, and apply themselves to the task with zeal and devotion. The numerous hospitals that are springing up in all of our large cities secure for a good percentage of our graduates appointments as internes, where they are given the best possible advantages for a successful postgraduate practical training. There is no longer any need for our students to cross the

Atlantic for the purpose of studying medicine. A comparison between an equal number of recent graduates from our high requirement medical schools and those of Europe would unquestionably result in favor of the former. The American is intensely practical in everything he undertakes, and our methods of teaching medicine constitute no exception.

To one who has kept in touch with the evolution of medical teaching in this country, these words of Dr. Senn are right. The last two decades have shown a wonderful advance in medical education. With the advent of the State Licensing Boards, which now exist in nearly every State in the Union, the small commercial college with its inadequate facilities for teaching has been, or is being, forced out of existence, owing to the fact that candidates from these institutions cannot pass the State examinations. Thus only the higher grade of private colleges and the universities are left. While there is yet much to be desired in our system of medical teaching, Dr. Senn is undoubtedly right when he says: "Present indications in the field of medical education in this country do not only prove that our first-class medical schools have reached a standard of proficiency equal if not superior to those of any other country, but that in less than half a century our great cities will become to the medical profession of every country what Alexandria, Athens, Bologna, Pisa, London, Vienna, and Berlin have been in the past and present."

EDITORIAL NOTES.

A New Ruling in Regard to Patent Medicines.

The makers of patent medicines whose principal ingredient is alcohol are certainly having their troubles at present. Several important lay periodicals have of late made startling revelations in regard to them, and now the Federal government has taken a hand in the game. A recent order from the Commissioner of Internal Revenue states that in the future the makers must pay a special tax for rectifiers and liquor dealers. The order holds that the tax must be paid by manufacturers of every compound in which any added drugs are in such small quantity as to have no appreciable effect on the alcoholic liquor of which the preparation is largely composed. It also states that the tax applies to "remedies" in which the added drugs, no matter what their quantity, are not of a nature to impart any medi-

cinal character to the alcoholic liquor. When the contained drugs really are medicinal no tax will be demanded. Samples are to be bought in the open market and analyzed in Washington. By so doing every patent medicine will be in the future classified. While it is too much to hope that this will be the means of stopping the patent medicine evil, it certainly is a step in the right direction, owing to the unpleasant publicity it will give the numerous "temperance cocktails."

The Dangers of Scopolamine Anesthesia.

Quite recently much has been written in regard to the use of scopolamine as an anesthetic to replace ether and chloroform. The drug is used hypodermically in combination with morphine, and a number of writers are very enthusiastic in regard to its use. Dr. Shoemaker, of Philadelphia, now calls attention to the dangers attendant on the use of scopolamine, and in an address which he recently delivered before the Pennsylvania State Medical Society said that he wished to call the attention of physicians to the dangerous toxic properties of the drug. Shoemaker claims that from his experiments he found that even in small quantities, gr. 1/200 to gr. 1/100, its effects are most marked; that it produces in these doses excessive vertigo and extreme dryness of the throat, and that in large doses it may be attended by grave dangers to the patient.

New Process for Preserving Milk.

To the already known methods of preserving milk another has been added by two Italian physicians. Their method is to preserve milk by means of an atmosphere of carbonic acid gas, under pressure. The milk remains unaltered for several days both in its physical and chemical characters, and in the biological constituents, the ferments. Some of the germs present are killed, while others have their development arrested. By this method uncooked milk can be kept for eight or twelve days at a temperature of 12° to 14° C., while boiled milk is preserved indefinitely. The gas is produced with little or no trouble. The inventors claim for this method a solution of the question of infant feeding. Milk preserved in this manner ought certainly to be superior to milk sterilized by heat owing to the fact that milk can be kept by this process for a considerable period with all pathogenic germs absent while its biochemical functions remain intact, which is not the case where heat sterilization is used.

ITEMS AND NOTES.

THE University of Giessen will celebrate the three-hundredth centenary of its foundation in May, 1907.

THE number of deaths from tuberculosis in England is 60,000 a year; yet it is said there are only 70 sanatoriums, with room for 2760 patients.

THE Emperor of Austria has made Karl Toldt, professor of anatomy in the University of Vienna, a life member of the Austrian House of Lords.

PROFESSOR PODWYSSOTZKI, dean of the Medical Faculty of Odessa, has been appointed director of the Institute for Experimental Medicine at St. Petersburg.

CONTRACTS have been awarded for the building of a laboratory in connection with the army general hospital at Presidio, San Francisco, at a cost of $10,000.

A COMMITTEE has been formed at Budapest to collect subscriptions for a monument to I. P. Semmelweis, in honor of his work on the etiology of puerperal fever.

IT is announced that a hospital for epileptics at Moscow, Russia, is to be built at once, with immediate accommodations for 150 patients, and possibility of its enlargement.

ACCORDING to Public Health Reports the cholera epidemic in Madras is steadily increasing, the total number of deaths from the middle of July to the middle of August being about 1000.

DR. THOMAS JOHN BARNARDO, the well known philanthropist of London, who devoted his life to the work of rescuing street waifs in the English metropolis, died September 19 at the age of sixty years.

DR. GEORGE F. BUTLER has tendered his resignation to the College of Physicians and Surgeons of Chicago, where for nearly twelve years he has held the chair of materia medica, therapeutics, and clinical medicine.

THE first International Congress of Psychiatry, Neurology, and the Care of the Insane will meet at Amsterdam from September 3 to 8, 1907, under the presidency of G. Jelgersma, of Leyden. The general secretary is J. Van Deventer.

Prof. William Osler, of Oxford, has accepted the post of Thomas Young, lecturer on medicine at St. George's Hospital, and will give a series of lectures and demonstrations at the hospital next spring on the diagnosis of abdominal tumors.

A memorial tablet has been placed upon a house at Greifswald where Billroth lived in his student days. The inscription is as follows: "Theodor Billroth, born at Bergen on Rugen April 26th, 1829; died at Abbazia, February 6th, 1894. Greifswald 1848 to 1849."

The Postoffice Department has issued a sweeping order debarring from the mails a number of Philadelphia individuals and "companies" who pretend to be legitimate medical practitioners and institutions, but investigation of whose business has revealed their fictitious character.

Under the auspices of the Italian Surgical Society a congress of Italian surgeons will be held at Pisa this autumn under the presidency of Prof. Antonio Ceci. The opening meeting will take place on October 29. On the occasion of the congress a magnificent new clinic will be opened in the University of Pisa.

In the Military Medical Academy, St. Petersburg, there is being experienced a scarcity of medical men to undertake the duties in connection with certain special clinics. To fill the gaps the Council of the Academy has proposed that privat-docenten should be invited to take up the work, and they have been invited accordingly.

The diphtheria death-rate has been greatly decreased of late years. Before the Chicago Health Department undertook the diagnosis for physicians and the distribution of antitoxin for its treatment the average annual death-rate from this disease was 13.7 per ten thousand of population. Under this laboratory work the rate has fallen to an average of 4.9. In 1904 it was only 2.04 per ten thousand.

Reports from London indicate that the city is suffering from an altogether unaccustomed plague of mosquitoes. A few years ago they were entirely unknown, or made their appearance fitfully in the neighborhood of the docks and Fleet Street, coming it was supposed among the rolls of paper. This summer they are being found all over the metropolis, and not a suburb is free from them. Apparently their bites are very trying to the insular skin, for it is stated that the physicians and hospitals are kept busy treating patients suffering from the effects of the punctures.

By arrangement between the Italian ministers of public instruction and finance, the official representatives of the province and commune of Milan and the managers of the hospitals of that city, it has been decided to establish postgraduate schools of clinical midwifery and gynecology, diseases of occupation, and contagious epidemic diseases. The first will have 200 beds, the second 60, the third 164, distributed among seven pavilions. Others may be created later. The estimated cost of these establishments is $50,000. The directors are to rank with university professors.

The Wistar Institute of Anatomy and Biology at the University of Pennsylvania, by the will of its recently deceased founder, Gen. Isaac J. Wistar, is, says the *Medical Record,* to receive the greater part of his $2,000,000 estate, and also his right arm and brain, to aid the cause of anatomical research. That part of the will which bequeaths the arm and brain reads as follows: "I bequeath to the Wistar Institute of Anatomy and Biology my right arm, said to be a desirable specimen of gunshot ankylosis, and also my brain, to be removed by said institute promptly after my death."

The homeopaths of New York have, says *American Medicine,* taken up the question of restricting marriages between persons who are not in normal health. The homeopathic physicians of Nebraska, Colorado, and Michigan have resolved to ask their legislatures to pass laws compelling all applicants for marriage licenses to undergo a thorough physical examination before they are allowed to wed. At the last annual meeting of the New York State Homeopathic Association a committee, with Dr. Holen, of Yonkers, at its head, was appointed to take up the matter. After thorough inquiry this committee is preparing to report its results and conclusions.

According to the *British Medical Journal* Dr. R. Row, of Bombay, recommends the treatment of plague by the method of inoculation with living pyogenic organisms. He does not enter into details of the character or mode of preparation of the material, with which he claims to have produced useful results, but states somewhat vaguely that "the chief part of the material consists of a species of staphylococcus pyogenes." This material is introduced by local scarification round about the plague bubo in six or eight points, and "allowed to remain there for eight to ten hours so as to take root." Dr. Row says the pyogenic organisms inoculated counteract the action of the plague bacilli.

Sir Patrick Manson in a speech before the board of directors of the Merchants' Association of San Francisco outlined his theory that yellow fever may yet become a source of worriment there in the changed trade conditions which will follow the completion of the Panama canal, urging the futility of what now passes as quarantine either in yellow fever or the bubonic plague. Owing to the advantages that San Francisco possesses over London for the study of tropical diseases, an advantage due to the fact that it has a colony of 10,000 Chinese, as well as many Japanese, Filipinos, and Hawaiians, he suggested that a school should be established there for the study of tropical medicine.

Miss Florence R. Sabin has been appointed associate professor of anatomy in the Johns Hopkins University. Her name is well known to anatomists by her work on the nervous system. Miss Sabin, it may be stated, is not the first lady who has been professor of anatomy. In the sixteenth century Alessandra Giovanni taught that subject at Bologna, and Anna Manzolini occupied a chair of anatomy in the same university in the middle of the eighteenth century. Maria Pettracina was professor of anatomy in the University of Ferrara toward the end of the same century. She was the author of several works on a subject which is exciting great interest at present, namely, the physical education of children.

In view of the number of cases of defective vision found among recruits enlisted at recruiting stations, recruiting officers have been enjoined by the War Department to take special precaution in the examination of the eyes of applicants. Cases were reported where applicants prior to examination had committed to memory the letters on the test cards, thus securing a better rating for sight than that to which they were entitled. To obviate this in the future it has been ordered that the cards for testing vision be kept locked up when not in use, or otherwise protected from access by prospective recruits. In all doubtful cases a small paddle with a hole in it of such size as to expose only one letter at a time should be used.

The Rev. Beverly Warner, of New Orleans, in a recent issue of *Charities* writes: "We are not concerning ourselves much these days with questions as to how the fever came in, or trying to shift responsibilities. We are fighting what we believe to be the last battle of a hundred years' war. It is the profound conviction of the health authorities, federal and local, that New

Orleans need never again fear an epidemic. When the last case has passed into history we expect to have proved that the fever is no longer a mysterious enemy, coming from an unknown quarter and striking in the dark, but an open and well known foe, against whom we may always be on guard, and with whom we have a certain knowledge of being able to cope. Under the sane and experienced leadership of the Marine Hospital Service we are fighting at our own cost and charges in men and money. And we expect to win."

The War Department has issued an order, effective September 30, discontinuing the practice of employing civilian physicians at recruiting stations. The fees to civilian physicians for this work have averaged $60,000 annually. Complaints from army officers of the bad physical condition of recruits have been increasing, and the government has been put to great expense in issuing equipment and paying transportation for men who had to be discharged before they had rendered any service. Under the new plan recruits will be examined for physical defects by recruiting officers, who will follow strictly the manual of the army. On acceptance the recruit will be sent to the nearest post, where he will be put through a medical examination by the regular post surgeon. No equipment will be issued to him until he has passed this final examination. It is said that the government will thus avoid many pension claims.

United States government engineers who have been investigating the underground water resources of Long Island show that the amount of water to be obtained is practically inexhaustible. The soil of Long Island is sandy and porous, taking up the water which falls as rain and snow on its surface like a sponge. Interrupted in its flow toward the sea by wells, pipes, or infiltration galleries, this underground water forms an enormous supply of pure water, filtered of organic material in the process, and hence of the very best type as regards potability. The *Brooklyn Medical Journal* says that all that is needed to render Brooklyn's water-supply one of the best in the world is to cut off the surface drainage ponds, like that at Hempstead, and supplement them by sufficient additional wells and infiltration galleries, such as those installed two years ago at Wantagh and those at present installing at Massapequa, to render the present supply adequate to meet Brooklyn's increasing needs.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Local Anesthesia.

In summing up the modern methods of local anesthesia, A. Hildebrandt (*British Medical Journal*, Aug. 12, 1905) raises the question whether the employment of these in surgical operations has not gone too far, in doing harm to fearful and nervous patients; but on the other hand he fully recognizes the immense advantages in a large number of cases in avoiding the dangers of general narcosis. In deciding between general narcosis and local anesthesia, one must study the patient, and to a certain extent the capabilities of the surgeon must also be taken into account. In turning to the various methods of inducing local anesthesia, he says that Richardson's method of the ether spray has now been replaced by other methods—for example, ethyl chloride. Improvements of this have been introduced in the shape of additions—for example, ethyl chloride with cocaine or eucaine; or in the shape of mixtures of ethyl and methyl chloride—for example, anestyle coryl, and anesthol. But the use of locally-acting anesthetics has been found to be better than the action of cold, and the introduction of cocaine and its allies marks an epoch in this branch.

The dangers of cocaine, especially when injected in concentrated solutions, have caused the surgeon to be cautious in its use; but this danger has been much diminished by the simultaneous employment of extracts of the suprarenal glands. Hildebrandt describes the method introduced by Reclus, who employed one-per-cent solutions injected into the cutis, and limited the amount of salt injected to 0.19 gramme. Schleich's method, however, has completely replaced Reclus's; Schleich uses cocaine hydrochlorate, morphine, chloride of sodium, and distilled water, and makes up three solutions. The ordinary solution consists of 0.1 per cent of cocaine, which he employs for the usual skin anesthesia; for deeper, less sensitive structures he dilutes this down to 0.01 per cent; while for hyperesthetic areas he uses 0.2-per-cent solutions. The infiltration takes place by first rendering a small point analgesic with ethyl chloride, then injecting the solution into the skin, forming a wheal, and into the periphery of this again inserting the needle; and so on

until the whole area of the field of operation is rendered anesthetic. The deeper layers are treated in the same way; 100 cubic centimeters of the normal solution can be injected without the least danger, for part of the fluid escapes on the incision being made, while the rest absorbs very slowly. The addition of adrenalin in Schleich's local infiltration is also of great value. The operations especially well suited to this form of local anesthesia are: the extirpation of benign encapsuled tumors, resection of ribs, typical operations on the abdomen, such as gastrostomy, etc., as long as one has not to search too much inside the peritoneum, as pulling of the mesentery and omentum causes both great pain and much shock. The removal of malignant tumors and operations on inflamed areas are not well adapted for Schleich's anesthesia.

The Late Poisonous Effects of Anesthetics.

A. D. Beran and H. B. Favill (*Journal of the American Medical Association,* Sept. 2, 1905) report the case of a girl aged 12½ from whom a gangrenous ovarian tumor with twisted pedicle was removed. The operation was done under chloroform, and took a long time and an unusually large amount of the anesthetic. The patient did well until forty-four hours after the operation, when there appeared an acute toxic delirium with rapid pulse, tonic muscular contractions, moderately high temperature, and later increased temperature, Cheyne-Stokes breathing, irregular heart action, and death 110 hours after the operation. The autopsy, by Dr. Hektoen, seven hours after death, showed advanced fatty change in the liver, at the periphery of the lobules, and congestion, etc., of kidneys, spleen, and lungs.

The authors give an extended review of the literature of similar cases, and conclude that anesthetics, especially chloroform (ether to a very limited degree), can produce a destructive effect on the liver and kidney cells, and on the muscle cells of the heart and other muscles, causing fatty degeneration and necrosis, very like that occurring in phosphorus poisoning. The most constant and important injury is that to the liver, and is in direct proportion to the amount of anesthetic used and the length of the anesthesia. Some individuals appear to be specially susceptible to these effects, and certain conditions, such as age—the younger the patient the greater the danger—those lowering the general vitality, various intoxications, exhaustion, lesions involving fatty degenerations, and chronic affections of the liver

and kidneys, are also probable predisposing causes. As a result of the liver lesions, toxins are produced either from the liver cells themselves or as a result of their failure in their normal eliminative functions, and these may produce a definite symptom-complex, consisting of vomiting, restlessness, delirium, convulsions, coma, Cheyne-Stokes respiration, cyanosis, icterus in varying degree, and usually terminating in death. It is probable that milder degrees of this poisoning are observed as transient after-effects of chloroform. The condition is a hepatic toxemia, and in the opinion of the authors as definite a pathologic entity as a pancreatitis with fat necrosis. Acetone, diacetic acid, and beta-oxybutyric acid are by-products and not essential poisons in this toxemia. The liver lesion is the one responsible for the symptoms and the fatal result. In the fatal cases death is almost invariably due to chloroform; ether is seldom the cause of death of this kind. Hence, chloroform should never be used with conditions such as have been mentioned as favoring this toxemia, nor for very prolonged operations. The importance of limiting the duration of the anesthesia, when chloroform is employed, is especially emphasized by the authors.

The Surgical Treatment of Tuberculous Cervical Lymph Nodes.

M. Dowd (*Annals of Surgery*, July, 1905) says that tuberculosis of the cervical lymph nodes is apparently due to infection received from the fauces, pharynx, or nasal mucous membrane in the great majority of cases; the disease tends to extend to the lungs and other internal organs. Such an extension occurs in one-quarter to one-half the cases in which the nodes are not removed. Apart from the tendency to infect other organs the disease is tedious, causes discomfort and disability, and leaves disfiguring scars; thorough exsection of the diseased nodes has given better results than any other method of treatment. The record of operated cases justifies the following statements: In favorable cases the operation is safe, it leaves no unsightly scar, it confines the patient to bed only two or three days, while a bandage or dressing is required only from one and a half to three weeks. There is freedom from recurrence in seventy-five per cent of cases, and ultimate recovery in about ninety per cent. In the less favorable cases the operation is safe, there is less disfigurement from scars than accompanies discharging sinuses, there is freedom from recurrence in fifty to fifty-five per cent

of cases, and ultimate cure in seventy to seventy-five per cent. Transverse incisions either in the neck creases or parallel to them are recommended; they must be so made that the fibers of the facial nerve will not be cut. A vertical incision back of the hair line will sometimes be useful. Extensive incisions are necessary in advanced cases; every precaution should be taken to preserve the normal structures of the neck. It is not feasible to divide the cases into suitable and unsuitable groups with respect to operations. Every case with tuberculous lymph nodes should be operated on, unless there is reason to believe that the operation could not be performed with safety.

Typhoid Orchitis.

D. Blumenfeld (*British Medical Journal*, Aug. 19, 1905) has been able to collect 69 observations of orchitis occurring as a complication or sequel of typhoid fever, from which he draws the following conclusions: Orchitis generally appears during convalescence, less frequently in the active course of the disease. It is characterized by a rapid rise of temperature, pain in the scrotum, occasional vomiting, which is apparently reflex. Pain is sometimes insidious, but usually increases rapidly, being situated in the neighborhood of the epididymis and vas. It may radiate into the loins and the inguinal regions, intercostal spaces, and the thighs, both in front and behind. The erect posture or movement of any kind is painful. Examination reveals the presence of swelling on one side, as typhoid orchitis is always unilateral, an important distinction from that met with in gonorrhea. Orchitis ends in resolution or by suppuration (29 out of 69 cases), occasionally by atrophy, which is the least common. The duration varies from twelve to eighteen days, exclusive of suppurating cases. The treatment consists in sedatives and local protection.

Treatment of Surgical Cases.

J. E. Camaday (*New York Medical Journal*, Aug. 26, 1905) says that proper preoperative and postoperative care of surgical cases is not secondary even to the technique of the operation itself. The value of habituation of the patient to the bed, giving a restricted, non-putrefactive dietary, the alimentary canal emptied and put in good condition, the eliminative organs inspected, and normal action if possible secured, and lowered states of

resistance as far as practicable remedied, is inestimable. Shock may be at times averted and well treated by artificial heat and stimulants, of which the chief are physiological saline solution and adrenalin. Empty the stomach and keep it so for the alleviation of vomiting. The devotion of special care to the cleansing of the site of incision on skin or mucous membrane is important. After the operation, conserving the energy of the patient in every possible way and avoiding needless purgation and unnecessary annoyances of all sorts are self-evident procedures, as are the prevention of tympany by proper dietetic measures and the avoidance of opiates. The value of physiological therapeutics in the management of the convalescent need not be insisted upon.

Apparently Unavoidable Errors in Diagnosis of Psoas Abscess.

H. Augustus Wilson (*American Medicine,* July 8, 1905) cites enough instances to show that the diagnosis of psoas abscess is not always easy, and that each case is worthy of the most careful study in every phase presented. The presence of well marked evidence of spinal caries is sometimes misleading. Great spinal deformity is often presented long after the activity of the bone disease has subsided. When conditions more or less closely resembling psoas abscess are also present, the preponderance of evidence is often in favor of psoas abscess when in reality some other disease or condition is present. The knowledge that these errors in diagnosis have occurred under the most critical inspection and elaborate study is convincing that while they are not always avoidable they should be guarded against as far as possible.

Gunshot Wounds of the Stomach.

W. M. Jordan (*American Medicine,* June 24, 1905) advocates immediate operation in cases of suspected wound of the stomach. If the stomach is full at the time of operation, he advises siphoning its contents by means of a tube passed through the bullet wound. For closing the perforations a purse-string suture of silk is recommended, which is reënforced by a second one in order to add strength as well as to increase the approximated area. Nothing whatever should be given by the mouth during the first week, the patient being sustained by nutrient enemas, and water being given by subcutaneous and rectal injec-

tions of normal salt solution. Morphine is given for a few days to limit peristalsis and check gastric secretion. A wound of the posterior surface of the stomach constitutes a positive indication for drainage of the lesser cavity of the peritoneum, the presence of such a wound being taken as presumptive evidence of injury to the underlying pancreas or left kidney.

Two cases are reported, the first having a single perforation on the anterior surface, with subsequent recovery. The second presented two perforations on the anterior surface; death from shock occurred four hours after operation.

Carcinoma of the Male Breast Cured by the Roentgen Ray.

S. Tonsey's patient (*Medical Record,* July 29, 1905) was a man of thirty-three, whose right breast was excised on account of the presence of a hard swelling, which was not accompanied by any glandular enlargements. The pathological examination showed the tumor to be carcinomatous. Six months later the man returned with a tumor of the left breast, which was somewhat softer and less adherent than the other, but more tender. *X*-ray treatment was begun, and after five months the tenderness had subsided, and in eleven months the growth had entirely disappeared. There has been no recurrence, though there has been no treatment for thirteen months.

MEDICINE.

The Delay of Old Age.

We are, in our enhanced appreciation of youth and vigor in these times, according to C. G. Stockton (*Journal of the American Medical Association,* July 15, 1905), neglecting too much the consideration due to old age. We should give more attention to the matter of mitigating its disabilities and of delaying their onset. We lack data, however, for positive conclusions as to the best methods to be employed for this purpose. Stockton would have a study of pedigrees, as is done in the breeding of domestic animals, adopted in the case of man for the rooting out of the qualities that tend to degeneration and to early individual decay. Marriage should be a matter of scientific selection more than it is at present; the breeding of bad stock should be

prevented. He deprecates the modern tendency to individualism, which would not prevail in a rightly adapted social system. Coming down, however, to the more detailed possibilities of improving the poor material we have to deal with, he finds certain things that medical science can do or is doing to delay or to alleviate old age. One of these is the improvement of the nutrition of the aged as the result of good teeth. It is doubtful, he says, whether we fully appreciate what we owe to the dentist. Another debt is owed to the oculist, who, by bettering the eyesight, has added interest to life in the aged. Still another way in which we can work to postpone senility is in warding off arterial disease. The earlier symptoms of arteriosclerosis are too often neglected, and even advanced conditions also. Auto-intoxications of one sort or another are for the most part responsible for advanced arterial degenerations, and the prophylactic and curative measures are well understood. He says there is good reason for believing that the toxic state that underlies senility originates in the colon. Hence the need of keeping up proper elimination in addition to the usual measures for improving the general circulation. By more attention to the pathology of old age we will render it more physiologic and less repulsive.

Dynamics of Dreams.

A. E. Gibson (*Medical Record*, Aug. 12, 1905) presents an exhaustive analysis of the physical and psychical basis of dreams. He sums up his views in part as follows: To sum up the argument, dreaming and waking differ in degree and form of manifestation only, not in principle and essence. Like waking consciousness, dreaming reveals but does not create. The same world that surrounds the waking individual surrounds the dreaming; only the view-points and media of observation are changed. As the life experience of an individual in his waking consciousness receives its character and value by and through his power of response to environment, so in a similar way the value of a dream depends upon the power of the ego to respond to consciousness in its various forms of emotions, ideas, and feelings which constitute the environments of the subjective or dream plane. Waking or dreaming, the individual is, or becomes, what he chooses to be at any given moment of his existence. The background for ordinary dreams consists of undigested remnants of waking life. Hence, ordinary dreams are merely undigested

life, being made up by longings, desires, anticipations, idle hopes, and miscarried realizations, which occupy the mind during the day, but are overtaken by sleep before having reached their fruition. Hence the mixture, in most dreams, of the sane and the insane, of truth and delusion. On the other hand, the life lived out and assimilated in a purposeful existence becomes absorbed in the formation of character and leaves no residue to form the bizarre staging for the confused dream. And to such an individual the intuitions of dream-life, with their dazzling imagery, will introduce symbols, which properly interpreted may carry the significance of prevision or prophecy. Therefore, to turn dreams into useful, intelligent, and intelligible factors, we must fill our waking life with deeds and thoughts of universal usefulness, and freight the train of events with an unflinching devotion to duty and virtue.

Progress of Stomatology.

V. A. Latham's chairman's address before the Section on Stomatology at the Portland session of the American Medical Association (*Journal of the American Medical Association,* Aug. 5, 1905) reviews certain problems and subjects that call for careful study by the progressive dental surgeon. Among these she mentions tubercular conditions, adenitis, etc., in their relations to oral sepsis, necrosis, and sinus thrombosis from oral disease, the origin of the parotitis following laparotomies, the question of treating the open wound left after extraction of teeth, the importance of mouth sterilization in connection with surgical operations on the stomach and intestines, and of foods administered by the mouth. Further teaching and study are needed in diagnosis, and she states that here the *x*-ray has opened a wide field. Dental bacteriology is still in its infancy, and much will have to be done before dentists can profit by the discoveries in serum treatment. So far as she is aware, little or no work has been done in the study of the influence of the growth of bone on the positions of the teeth, and how bone and tissue changes adjoining the teeth may affect their growth is a subject still deserving careful study.

Dr. Latham asks how many outbreaks of dysentery, scurvy, etc., in public institutions may not be due to dental neglect, and emphasizes the importance of attention to the care of the teeth in infants and in schoolchildren. Physicians should even go still farther back, and should pay attention to heredity and to the diet

of the pregnant woman. The evil possibilities of neglect of this matter in children are legion. Dr. Latham mentions as a matter that has interested her in some of her pathologic studies the cause and frequency of a condition resembling obliterative arteritis observed in the pulps and periodontium, and its bearing on alveolitis, gingivitis, and their sequels. She speaks of the need of more coöperation in scientific work in this specialty, and regrets the lack of a dental literature index to aid workers in knowing what others are doing.

The Relations Between Albuminuria and Diabetes.

At a recent meeting of the Paris Academy of Medicine, M. Lancereaux (*Lancet*, Aug. 19, 1905) said that in his opinion it is an error to suppose that the passage of sugar through the kidneys is the cause of the albuminuria which is found in diabetes, because albuminuria is unusual in pancreatic diabetes, in which the amount of sugar varies between 500 and 1100 grammes in twenty-four hours, whereas it is relatively frequent in fatty or arthritic diabetes, in which the amount of sugar seldom exceeds 100 grammes. There are three pathogenic conditions which might give rise to albuminuria in diabetes. One is an intercurrent disease, especially tuberculosis. The urine is in that case high-colored, turbid, and scanty; its specific gravity is increased, and it is loaded with flocculent albumin and tube casts; the kidney lesion is epithelial nephritis, quite independent of the diabetes, and connected with the general disease.

The second of the three conditions above mentioned is arteriosclerosis, with consecutive atrophy of the kidneys. The urine is of low specific gravity, transparent, pale, and abundant; the albuminous precipitate is small in quantity; the kidney lesion is arterial nephritis, which as well as the diabetes is of arthritic origin; uremia is of frequent occurrence.

In the last of the three conditions there is neither any intercurrent disease nor arteriosclerosis. The urine is almost normal in quantity, specific gravity, and color, and it contains neither tube casts nor leucocytes; the albuminuria is generally abundant, and is increased by mental excitement and overwork, but the patient's general health is fairly good and anemia is rare. This third form deserves to be called albuminous diabetes on account of its constant association with glycosuria, and in accordance with the celebrated experiment of Claude Bernard it ought to be attributed to a disorder of the bulbar innervation

Meningitis.

S. Maccuen Smith (*American Medicine,* July 29, 1905) gives a thorough review of the symptomatology, diagnosis, and treatment of this disease. He says meningitis manifests itself in a Protean manner. Occasionally the symptoms are so typical that it is impossible to mistake the affection, and at other times they develop in such a latent form that only with the greatest difficulty and by the most careful attention to the etiology can a tentative diagnosis be made. As to the treatment, apart from employing general methods, such as the use of rest and the application of cold, very little can be accomplished. Surgical interference is naturally indicated in most cases of meningitis complicating aural disease. This procedure, however, is satisfactory only in a very small percentage of cases, chiefly from the fact that the serious nature of the ear disease is not recognized until the meningeal inflammation has become well established. Lumbar puncture is employed largely for the purpose of relieving pressure, and in some cases of non-infective meningitis, uremia, etc., actually startling results have been reported. However, Dr. Smith's experience has led him to believe that lumbar puncture is of value chiefly as a means of diagnosis. The cerebrospinal fluid has a normal specific gravity of about 1010 and contains little or no albumin. In meningitis the albumin is greatly increased, while in cerebral abscess it is only slightly increased. It is claimed that the presence of more than one per cent is pathognomonic of meningitis. Dr. Smith reports a case of meningitis complicating aural disease.

Blood-pressure Observations for the Practicing Physician.

Clinton E. Brush (*American Medicine,* July 15, 1905) speaks of the importance of using a cuff at least 12 centimeters wide, as the error in cuffs that wide or wider may be disregarded. The importance of obtaining both diastolic and systolic pressures is emphasized, the method of Strassburger for determining diastolic pressures being deemed sufficiently accurate for ordinary work. He concludes: (1) Both systolic and diastolic pressures should be taken. (2) The cuff on the instrument should be at least 12 centimeters wide. (3) With the wide cuff the normal systolic blood-pressure for the healthy adult male is nearer 110 mm. Hg. than it is 130 mm. Hg. (4)

The chief value of blood-pressure observations lies in the lead they give in regard to indications for and results of treatment. (5) In a few conditions they are of diagnostic value. (6) In many conditions blood-pressure observations are of no practical value.

Microörganisms in the Small Intestines.

Jundell (*Archiv f. klin. Chir.*, Bd. 73) having demonstrated that bacteria are seldom found below the vocal cords and that the trachea, respiratory tract, and conjunctiva are free from them, offers the theory that the condition of the mucous membrane itself is the cause of this autosterility. The fact that it was demonstrated in the Boer war that penetrating wounds through the empty intestine healed more readily without surgical intervention induced him to experiment on the sterility of the intestines. He examined the intestines of five persons, three suffering from carcinoma and two from a benign pyloric stenosis. In only one case of carcinoma were bacteria found in the small intestines; in the other the intestines were sterile. He believes that all mucous membranes possess the property of autosterilization with the exception of the lower intestinal tract and vagina.

An Indicator of the Presence of Bacteria.

Gosio (*Zeit. f. Hygiene*, Bd. li) used the alkaline salts of tellurium and selenium as indicators of bacterial life on account of the power of microörganisms to break up and reduce these substances to colored compounds. The tellurides produce black and the selenides a red coloration in fluids containing living bacteria. Potassium telluride gives the most marked reaction, and in solutions of 1:200,000 a distinct coloration is produced. The author suggests the usefulness of this method in testing vaccine and serum preparations as to their sterility.

Epigastric Linea-alba Hernia as a Little Recognized Source of Abdominal Pain.

D. D. Stewart (*American Medicine*, July 29, 1905) says the occurrence of hernia in the linea alba above the umbilicus—hernia most frequently of small size and often only apparent on minute examination—and its importance as a source of gastric symptoms have received far too little attention by both clinician

and surgeon. These hernias are small, sometimes barely perceptible to the eye, and in other instances fairly evident on inspection. Symptoms are usually referred to the stomach, whence a diagnosis of some form of gastric disorder, gastritis, gastralgia, and even gastric carcinoma or gall-stone may be made by the unwary. The apparent triviality of the protrusion, even if it does not escape recognition, often does not suggest itself to the physician as a likely source of the malady.

Bacteriology of the Fibrinous Inflammations of the Air-passages.

Gerber (*Berliner klin. Wochenschrift,* No. 31) found the Klebs-Loeffler bacillus in more than three-fourths of 40 cases of fibrinous rhinitis. There was no fever or general symptoms in 30 of the cases, including those in which the diphtheria bacilli were absent. In 127 patients with fibrinous pharyngitis only one-half showed the presence of the Klebs-Loeffler bacillus. The writer advocates the injection of antitoxin in all cases in which the general symptoms are severe, but does not advise its use in those cases in which the symptoms are slight.

THERAPEUTICS.

Sciatica and its Treatment.

William M. Leszynsky (*Medical Record,* Sept. 9, 1905) remarks that pain in the course of the sciatic nerve is common, but genuine sciatic neuralgia is rare. Most of the cases are really perineuritis or interstitial neuritis, while others are symptomatic of interference with nutrition of the nerve by some extrinsic lesion. The causes of sciatica are exposure to cold, overfatigue of the legs, and pressure on the nerve from habitual sitting in persons whose metabolic processes are impaired by rheumatism, gout, diabetes, or alcoholism, injuries from lifting heavy weights, horseback or bicycle riding, sewing-machine work, etc. Sciatic pain occurs in diseases of all neighboring organs that are associated with compression of the sciatic nerve or sacral plexus. Such are tumors and inflammation of the pelvis or of the spinal meninges, vertebral caries, uterine disease, pregnancy, parturition, malignant diseases of rectum, hemorrhoids, hardened feces, sarcoma of femur, etc. It may result

from fracture or dislocation of the thigh. It is rare from lead, mercury, or syphilis. Anemia, chlorosis, and hysteria have little influence in producing it. It may develop suddenly from exposure, or slowly when symptomatic of other diseases. The diagnosis is based on pain or tenderness over the nerve trunk, which radiates to the foot or toes, and diminution or loss of the Achilles tendon reflex. When degenerative, it is accompanied by paralysis, atrophy, vasomotor disturbances, etc.

In the treatment of sciatica the first thing is the diagnosis of the cause and its removal when possible. In acute cases heat by the hot wet pack, combined with rest and fixation and hot saline enemata, relieves pain. The bowels should always be moved by enema, and calomel given to unload the bowel and eliminate poisons. Morphine or opium suppositories are always indicated to obtain sleep at night. Massage, if gentle, is useful. Linear cauterization is of value in relieving pain, as is the ice-bag at times. The continuous galvanic current in either direction is useful at the end of one week. It is more useful in mild, subacute, or chronic cases. Mild cases will yield to hot packs, massage, and rectal irrigation. In subacute or chronic cases a modified rest cure is essential. Drugs are useless. Daily massage and passive movements and systematic exercises are useful. Hydrotherapy, in the form of the local wet pack, Scotch douche, etc., is most valuable. Static or faradic electricity in the form of the brush is useful.

Treatment of Some Neuralgias by Roentgen Ray.

Charles L. Leonard (*American Medicine*, July 8, 1905) calls attention to what has been accomplished in relieving intolerable conditions of pain by the use of this agent. The cases which he reports indicate what may be accomplished under favorable conditions, and are not to be taken as a definite measure of an agent with which a measured dose can be applied to accomplish the same result. Each patient and his or her disease modified by the reaction of the Roentgen ray must form the individual basis for treatment in each case. So far no generalization can be made, nor can definite results be promised. They depend upon the reaction of the patient and the adaptation to each case of the quality of the ray necessary to it. Dr. Leonard reports as apparently cured cases of tic-douloureux, chronic migraine, and facial neuralgia. These were chronic cases which had remained free from pain from one to two years after treatment.

In one or two cases palliative results alone were observed. He says that although these cases are possibly too few and of too short standing from which to deduce any valuable conclusions, they at least demonstrate that in certain conditions of intolerable pain that persist for a considerable length of time this agent can relieve and produce apparent cures. Although it cannot be stated definitely which particular class of cases will be benefited, there is at least a prospect of temporary relief for all, and a probability that a further development of technique will increase the number of cases in which permanent results can be secured. Neuralgias are not the only painful conditions that can be relieved by this agent, for articular pain, as seen in gout and rheumatism, even after deformity and stiffening has taken place, can in many cases be permanently relieved, while the pain can certainly be decreased.

The Treatment of Pertussis in Relation to Etiological Factors.

J. B. Tyrell (*Medical Record,* July 22, 1905) says that although nothing positive concerning the cause of whooping-cough has yet been learned, the most rational view of the question is as follows: Pertussis is an infectious disease as regards its external cause; it is a neurosis in relation to its most prominent symptoms, and a catarrh in the anatomic localization of most marked disturbance. The disease is primarily a catarrh of the upper respiratory tract, and during the convulsive stage it is unquestionably an irritative condition of the nerves concerned in the respiratory function; but further than this we cannot advance at present. Prophylaxis is the first essential and entails avoidance of contact with whooping-cough patients, schools and kindergartens being closed during severe epidemics. Disinfection of sputa and excreta is advisable, and good results in cutting short the disease have been reported by fumigation of the patient's room with sulphurous acid. Of the drugs to be used quinine stands foremost, and it may be given three times a day, as many decigrammes as the child is years old, or as many centigrammes as it is months old. Camphor is useful, but the coal-tar products are less favorable than quinine and are frequently dangerous. Careful dieting is necessary, and it is desirable to give small amounts of concentrated food at short intervals to avoid overfilling the stomach. For the paroxysms, belladonna and opium, bromoform, and moral suasion are advo-

cated. The author reports encouraging results attending the use of the elastic abdominal belts recommended by Kilmer for the purpose of controlling vomiting and reducing the number and violence of the paroxysms.

The Individual Treatment of Diabetes Mellitus.

Henry S. Stark (*Medical Record*, Sept. 23, 1905) advises the treatment of the individual patient in diabetes mellitus rather than the arbitrary treatment of the disease by stereotyped methods. The severity of the pathologic process cannot be measured by the amount of sugar in the urine. We should study the power of the patient to assimilate carbohydrates; his general state, whether anemic, plethoric, obese, or emaciated; his mental attitude, his digestion, his ability to maintain nitrogenous equilibrium, the complications, and the preferences of the patient as to diet. We cannot put our patients on a diet that starves them of carbohydrates, but only lessen the amount taken. Under prophylactic treatment the author advocates a modified diet for the children of diabetics, with a systematic examination of the urine. The occurrence of an excess of uric acid may be a forerunner of diabetes. Treatment must be systematic. The patient should be restrained from gratifying his appetite for food and drink. If emaciated and weak, a diet of increased fats is valuable. For glycosuria and polyuria codeia should be given only in very moderate doses. For the skin lesions about the genitals the author uses a soothing lotion and protective applications. In bad cases catheterization for a time works well. We should prevent diabetic coma, as when it is established very little can be done. For this he uses alkalitherapy, purgation by croton oil, and bloodletting if necessary.

The Management of Epilepsy.

Thos. P. Prout (*American Medicine*, July 22, 1905) says the determination of the existence or absence of any gross lesions of the brain or the existence of any brain defect is of prime importance in prognosis and treatment. Treatment consists in the elimination of all irritating factors and the diminution of the frequency and severity of the fits, since the latter are detrimental to the mental health of the individual. For this purpose the medicinal, dietetic, and hygienic treatment of the individual case

must be considered. For the medicinal treatment the only drugs of serious moment in the control of the fit are the bromides. These may be given in some one of the modified forms and by the hypochlorization method of bromide administration. Drugs for the correction of special conditions must be given when indicated. The hygienic treatment consists in the doing of any necessary dental work and the care of the skin and the gastro-intestinal tract. The skin should be kept active by means of the daily bath followed by a shower, or the cold pack followed by a short cold shower and a vigorous rubbing. Technique of the pack is important. Regularity and simplicity of the diet are all-important. Each case must be studied for the elimination from the dietary of substances which the individual digests poorly. In some instances the simple diet of milk and eggs and their modifications will be necessary in the beginning of treatment. Proper regulation of the diet alone should reduce the number of fits from one-third to one-half.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Treatment of Middle-ear Diseases.

A. E. Bulson (*Journal of the American Medical Association,* June 17, 1905) thinks that the prophylaxis of middle-ear diseases is too often neglected. Every slight earache should be looked after, constitutional conditions attended to, and proper treatment given to affections of the nose and throat. Opiates mask symptoms and should not be used for pain; dry heat will usually suffice. As the pain is due to pressure from congestion, the essential treatment is depletion, and this may be accomplished by catharsis, leeching, the application of carbolic acid and glycerin to the membrana tympani for its osmotic effect, or by direct incision. Bulson does not favor waiting for bulging of the membrane before incising. He has never seen any bad effects from an early incision, done with proper antisepsis and precautions, but he has seen delayed cessation of discharge, impairment of hearing, and even more serious results from waiting.

Summing up his recommendations he says: (1) The patient

should be kept quiet, preferably in bed, and the more active the symptoms the more necessary the enforcement of this measure. (2) Secure a prompt and free movement of the bowels by calomel and salines. (3) Secure depletion of the vessels of the membrana tympani and of the tympanic cavity by leeches applied immediately in front of the tragus, and the osmotic effect of carbolic acid (10 per cent) and glycerin tampons applied directly against the drum membrane. (4) Cleanse the pharyngeal and nasal mucous membrane with a saline-antiseptic spray or douche. Remove any existing hypertrophied lymphoid tissue. (5) Advise cautious blowing of the nose to avoid infection of the tympanic cavity. (6) Apply dry heat for control of pain. (7) Incision of drum membrane under strict asepsis on appearance of pronounced redness of any portion of that organ when accompanied by pain, impairment of hearing, and other evidences of acute inflammation. (8) Following perforation of drum membrane the use of aseptic dry gauze packing to exclude infection from without, and also to withdraw the discharge from the tympanic cavity by capillary attraction. (9) Judicious inflation by Politzer's method only after the acute symptoms have subsided or after the drum membrane has been opened, to facilitate removal of discharge and to prevent adhesive changes in the sound-conducting apparatus.

Eye Injuries.

F. C. Heath (*Journal of the American Medical Association*, Aug. 5, 1905) reports cases of eye injuries falling under three groups and illustrating special points in the management of these lesions. The first three cases reported are of foreign bodies in the crystalline lens, and show that while these may remain quiet for years they may become dangerous and need to be kept under observation. The second group includes three cases of foreign bodies in the iris. In the first a particle of steel had remained embedded twenty-two years without giving trouble; it then began to produce symptoms, and at last had to be removed on account of signs of sympathetic irritation, twenty-seven years after the first injury. The iris is evidently very tolerant of foreign bodies, but these, nevertheless, are possible sources of irritation and should be kept under close observation. The third group of cases involved wounds in or near the ciliary region. They illustrate the fact that danger lies more in the position than the size of the wound. In two of the cases the

wounds were extensive, but the ciliary body escaped injury though very closely approached, while in the remaining case the wound, though very minute, involved the ciliary region and necessitated the ultimate enucleation of the eye. It showed the great danger of prolapse of the iris, however small, in this region, and the author thinks it is only in exceptional cases of prolapse and in those seen rather late that he would be inclined to resort to prompt operation, whether near the ciliary region or well within the corneal margin.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

What Action Should be Taken to Suppress Smallpox?

H. M. Bracken (*American Medicine,* Aug. 26, 1905), in order to make the best report possible to the Conference of State and Provincial Boards of Health of North America upon the best means of controlling smallpox, obtained from various public health officers, scientists, and practitioners their opinions upon this most important question. Dr. Bracken uses these opinions as the basis for his argument in favor of the compulsory examination at least of children, and against the indefinite continuance of quarantine as a means of suppressing smallpox. In conclusion he urges that the conference put itself on record as follows: "Believing that all attempts to restrain smallpox by means of quarantine in a community not protected by vaccination will fail; that rigid quarantine in a well vaccinated community is unnecessary; that attempts to control the spread of smallpox by means of quarantine is unscientific, irrational, unsuccessful, and misleading; that in laying down strict rules for the quarantine of smallpox sanitary authorities are favoring unscientific and illogical methods and are conveying false ideas as to safety, this conference protests against further attempts to control smallpox by means of quarantine and requests the passage of compulsory vaccination laws similar to those of Germany, requiring (1) the compulsory vaccination of infants, (2) revaccination at puberty. The conference should further place itself on record as requesting that steps be taken to secure a safe and efficient vaccine, and that vaccination be carried out by official vaccinators acting under the authority of the various

Boards of Health; also that steps be taken to secure a vaccine the quality and efficiency of which are beyond question. Legislators and the people should be advised as to their responsibilities in suppressing smallpox, and a time should be set for the total abandonment of quarantine as a means of attempting to control this disease."

On the Persistent Form of Erythema Nodosum.

W. Pick (*British Journal of Dermatology*, August, 1905) describes two cases in which lesions somewhat similar in character to those of erythema induratum of Bazin occurred in the legs of two young women, aged respectively seventeen and nineteen years. In both cases the calf was the part chiefly affected, and the lesions consisted of subcutaneous nodules, some of which persisted, while others involuted. The histological changes present were confined to the subcutis and consisted of a dense infiltration of round cells, especially located around the sweat-coils and blood-vessels. Many of these cells had spindle-shaped or oblong nuclei. Masses of them were present also in the septa between the fat lobes. According to the writer these cases showed a close analogy in their symptoms, localization, and anatomy to the acute erythema nodosum, and differed from the erythema induratum (Bazin), which he believed to be a tuberculous manifestation, on account of its histology, its reacting to tuberculin injections, and the facts that bacilli had been found by Phillipson and inoculation in lower animals had given positive results.

Freezing in the Treatment of Skin Diseases.

A. Juliusberg (*British Medical Journal*, Aug. 19, 1905) has used liquid carbonic acid for this purpose. Its action is rapid and intense; at the end of half a minute it produces marked anemia, followed after a few minutes by hyperemia and serous exudation. In twelve hours there is inflammatory redness and small superficial blisters form. These changes disappear after a few days. More intense freezing will produce ulcers. Therapeutically, liquid carbonic acid has several advantages over a mixture of the chlorides of ethyl and methyl. The author uses it three times in three to four weeks. For acne several applications with warm alcoholic dressings in the intervals have given excellent results. Psoriasis and lupus are made worse by this

treatment. For lupus vulgaris two or three sittings a month are sufficient; the freezing is performed energetically to cauterize the tissue; severe pain is often occasioned. It is above all with lupus erythematosus that the method is successful. Juliusberg relates nine cases.

Serum Therapy in Erysipelas.

James C. Ayer (*Medical Record,* Aug. 26, 1905), who some time ago published his observations on a series of fifteen cases of erysipelas treated by antistreptococcus serum, reports the results obtained by the same treatment in thirty-three additional cases. Three of the patients died in this last series; the average duration of the disease was 6.8 days, as against 7.6 days in the previous series. In the first series of 79 cases treated by the older methods, the average duration was 9.4 days. The author says that this shortening of the average duration of the disease by 2.6 days about expresses the value of this form of treatment. The general amelioration of all the subjective symptoms following its employment is also in its favor, as is the apparent beneficial effect on the febrile form of albuminuria, which is present in such a considerable percentage of the cases.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
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Insanity at Puberty.

In the issue of the *Journal of the American Medical Association* of July 1, 1905, Charles W. Burr, of Philadelphia, calls attention to the fact that this developmental period is a critical one, and to the fact that mental disease occurring at this time indicates that the patient possesses less than the normal of power of resistance.

"The study of psychiatry," he says, "has been much hindered in its progress by the fact that we arbitrarily confine insanity within very narrow limits, and pay but little attention to mental symptoms outside its boundaries, or too often content ourselves by explaining them on the ground of viciousness. Much seeming viciousness is real disease.

"Everyone," he adds, "is probably a little unbalanced at this time."

He cites the type of the boy who, previously bright, loses all ambition, and suddenly all the previously cherished hopes of him fail of fruition, and a condition of feeble-mindedness or mild dementia ensues. Another type having its beginning at puberty is not fully developed until adult life, viz., paranoia.

Some five cases are cited, and he concludes that the proper treatment of insanity lies more in prevention by means of education, the inculcation of self-control and clean morals, and the non-pushing of those whom nature never intended to lead a strenuous life.

Delusions of the Insane.

A. Chase (*Journal of Nervous and Mental Diseases*, July, 1905) says that a delusion takes its origin primarily in a perversion of the vital feelings rather than in derangement of intellectual activities of the mind; that delusions may be divided into those based on the sense of adequacy and the sense of inadequacy, with a limited number due to a morbid change of the ego; that delusions of inadequacy largely preponderate; that delusions begin in a vague way out of a disturbance of the vital feelings and that the definite form of the false idea which afterward appears is the attempt at explanation by the patient to reconcile himself to himself; that the genuine delusions of the insane are very few in number, but that the false ideas growing out of them are very numerous; that, contrary to the text-books, delusions as a rule are not transient and changeable.

GYNECOLOGY AND OBSTETRICS.

Perils of Ecouvillonage in the Puerperium.

D. Perret (*British Medical Journal*, Aug. 26, 1905) in reporting a series of labors in Tarnier's clinic relates a case of fatal peritonitis due to an awkward mistake made when the curette was used in the puerperium. Bouchacourt delivered a primipara, employing Tarnier's forceps, as the labor was lingering. Severe flooding followed, and a few hours later the vagina was examined. The perineum was intact, but a laceration of about 1½ inches in length was found in the vaginal wall posteriorly. A continuous suture was applied. In the course of

the first week septic symptoms appeared, and on the seventh day, as the lochia were fetid and the uterus large and soft, the assistant resident medical officer employed the curette, with, it appeared, every precaution. Then he proceeded to use the écouvillon to swab the uterine cavity. Unfortunately he seized both lips of the cervix with the volsella, meaning to fix the anterior only, and pushed the swab into what he suspected must be a second uterine canal. No fragments came away on the swab. Then the parts were examined, and it was seen that the instrument had passed under the suture into the vaginal wound. The anterior lip of the os uteri was determined and seized with the volsella; then the uterine cavity was swabbed. General septic peritonitis followed, ending fatally ten days later. Douglas's pouch was found full of pus; it communicated by a circular orifice, a little to the left of the middle line, with the vagina at the posterior fornix. The explanation of this condition is evident.

The Indications for Total Abdominal Castration in the Treatment of New Growths of the Adnexa.

A. Lenormant (*British Gynecological Journal,* August, 1905) declares that, as far as we know at present, abdominal hysterectomy is indicated: (1) in all cysts of the ovaries or adnexal tumors in which the uterus is involved secondarily; (2) in all cases of ovarian cysts complicated by a uterine fibroma, with the exception of the rare cases of unilateral cysts in young women in whom the fibroma can be enucleated and the uterus preserved. Abdominal hysterectomy is absolutely necessary when an ovarian cystoma has become firmly attached to the uterus, or when such a tumor has a very broad or a very soft and freely bleeding pedicle, or is such that its removal would entail leaving much of the surface of the uterus uncovered, and also for the intraligamentary cysts which cannot be removed if the uterus is to be preserved. Finally, abdominal hysterectomy is, as it were, a prophylactic operation in women near or in the menopause, who have bilateral, multilocular, or even unilateral cysts, the course or anatomical condition of which is suggestive of malignant degeneration. Lenormant reports three cases operated upon, the favorable results of which to some extent support his views.

THE MEDICAL AGE

VOL. XXIII. DETROIT, NOVEMBER 10, 1905. No. 21.

ORIGINAL CONTRIBUTIONS.

THE ORIGIN AND TREATMENT OF CANCER.

BY WILLIAM LLOYD, M.D., PHILADELPHIA.

Experience confirms Freund more and more in the belief that senility, in the widest application of the term, is the primal etiologic factor in cancer, these senile changes being premature or occurring at the normal period, and being localized in the skin, mucosa, or glands, or generalized; they may occur spontaneously and normally or abnormally. We know that a local, slow, and torpid affection, with mild and insignificant symptoms, may develop into an acutely malignant phase under the influence of depressing circumstances; Freund cites a number of instances in which an old, mild gastric trouble developed into a rapidly fatal cancer after excessive overwork or overworry. He believes that we can count on permanent cures after early removal of primary carcinomata in certain regions of the skin, especially on the face, and in cases of tumors that have developed from warts or nevi. The prospects are better in cases of spare, elderly patients than for younger persons, especially pregnant women. It is a remarkable fact that the metastatic tumors are much more amenable to curative measures than the primary growth. Hence we see the importance of hygiene, of regular habits of life, and of avoidance of close contact with cancer subjects, which may be dangerous for those predisposed to this condition.

Spontaneous retrogression of metastatic tumors after removal of the primary focus may also occur. Freund calls attention again to a method of treating cancer which he published some years ago, being based on the observation that the individual cancer cells are very short-lived. He excludes temporarily the affected limb or organ from the circulation, and then tries to flush it through one of its main arteries with an alkaline fluid, washing out the residual blood by a counter-opening in one of the

main veins. A promising field for cancer research is the continued study of the parts most frequently affected with cancer before such growth occurs, and further important results may be obtained from study of the vitality of the cells of various adjacent tissues separated from their environment; Wentscher has already reported research in this line on the persisting vitality of the cells of the rete Malpighii in detached scraps of skin, but study of such cells within twenty-four hours after death might also afford interesting results.

Von Hanseman declares that there is absolutely no data at present upon which can be based a theory of the origin of cancer that will hold water. Heredity has never been shown to have a potent influence; and if it had, the teratoid tumors would be most often inherited, but this has not been shown to be the case. Nor is the traumatic theory sufficient to explain all cases, either chemical, mechanical, or thermal, for the occasional sequel of a cancer following an injury offers no scientific explanation for the origin of the disease, and while the infectious character of cancer has long been theorized, there is absolutely no proof for it. Those who adhere to this belief either do not know cancerous tissue when they see it, or they are very vague in their descriptions of the parasites. They do not allege them to be vegetable, since the bacteria are too well known; while animal protozoa are not sufficiently known as yet.

Maniscalco on the other hand inclines toward the traumatic theory of the origin of cancer, as this explanation is the most plausible yet offered, and he claims that traumatism and repeated irritation are the true causes of cancerous growths. The atypical epithelial productions which are effected experimentally as the results of traumatism or irritation confirm this hypothesis, and the author was able to substantiate this experimentally by producing incipient tumors in the stomach of animals. He performed gastroenterostomy in dogs, which he killed a few days afterward. In the stomach in the neighborhood of the newly made pylorus the epithelial coat had suffered partial losses, which were partly replaced by regenerated cells; this new epithelium was composed not only of mucous cells, but also of protoplasmic cells. In the affected glands there was hyperplasia and karyokinesis of the epithelium. On scraping the lining of the stomach in other dogs he produced a series of changes which appeared at first to be regenerative in character, but which in reality constituted a pathological proliferation, inasmuch as the process was complicated by inflammatory changes. A change of a regenera-

tive process in glandular epithelium into a morbid proliferation is produced by the addition of an inflammatory process; in this way the traumatic origin of cancerous growth may be explained.

Many years ago Thiersch demonstrated that epithelioma had its origin in diseased epithelial elements, and Waldeyer showed that all carcinomata consist of derivatives of epithelial cells. Before this Virchow established the doctrine that all cells come from preëxisting cells, and that any cell, the conditions of nutrition being equal, can only give origin to its like. Hence a growth (carcinoma) consisting of epithelial structures must be derived from proliferating epithelial cells, and one (sarcoma) consisting of connective tissue elements must have its parentage in connective tissue cells. At the present time all that one can with certainty assert is that notwithstanding the many experiments by competent observers, the researches made by experienced workers, and our extended knowledge of the rôle played by bacteria in disease, neither the parasite of cancer itself nor any parasitic product has been conclusively demonstrated. Scheurlen discovered bacilli spores in cancer cells, and claimed success in cultivating and injecting portions of diseased masses, removed from one body to another; while Schill found a double-point bacillus in the cells of carcinomata and sarcomata of variable size, being larger with carcinoma than sarcoma. Lampiasi found in malignant tumors, and in the blood of those affected, a characteristic bacillus with spores, and succeeded in producing cancer by injecting a culture product obtained from one case. On the other hand Senger Ermeugen, Baumgarten, and the pupils of the latter, have failed in every way to satisfy themselves of the existence of a bacillus in a neoplasm which is not in process of degeneration; yet Ballance and Shattock, although their experiments, conducted over a long period, were only negative, believe that the only theory satisfactorily explaining all the phenomena of malignant growths is the parasitic one. Pfeiffer, in his monograph "Protozoen als Krankheiterreger," claimed that one of the protozoa, viz., the coccidium, may be the parasite of cancer, having seen epithelial cells containing these bodies in the liver of animals, and also in the bile-ducts, where they formed psorosperm nodules; in these infected cells the coccidium grows at the expense of the protoplasm of the cell, and in the neighboring cells exists rapid karyokinesis. Darier was able to detect these bodies in the epithelial cells, and in the stroma of the cancerous mass, as well as in the lymph vessels. Russell has described organisms which he found in similar relationship with the tissues of cancer,

which stain brilliantly, and which have come to be named "fuchsin bodies," but in specimens specially hardened with bichloride of mercury and alcohol he was led to believe that these bodies resemble the coccidia more than any other known organism. In the larger bodies, for they are of variable sizes, which appear to have a distinct capsule, there is a distinction between the central portion and the periphery, the former being more deeply stained, at times granular, at times homogenous, and irregularly mottled with small radiating projections; small fuchsin-stained bodies can be detected in or near the nucleus of the proliferating epithelial cells, but they are apparently quite distinct from the mucleus. According to Sudakewitch the capsule of the body (coccidium) is so thick that its contained protoplasm appears to be little affected by weak, hardening fluids, such as chromic acid or Muller's fluid, and changes may take place in the organism after the protoplasm of the epithelial cell has been fixed by the hardening fluid. By fixing the tissues rapidly with bichloride of mercury, osmic acid, or Fleming's solution, the structure of these organisms is retained in some degree, and may be distinctly shown by staining with logwood, or logwood and safranin.

Ruffer and Walker believe they have succeeded in demonstrating the parasite of carcinoma, and that it is a coccidium, and according to these observers there is but little difficulty in the process. The pieces (not longer than an eighth of an inch) of a carcinomatous growth are placed, whilst still warm, in the hardening fluid, Fleming's solution being the best; or other solutions may be used, viz., solution of corrosive sublimate, absolute alcohol, one-per-cent solution of osmic acid, and Muller's fluid. With Fleming's solution the pieces were allowed to remain for two or three days, then worked in running water for twenty-four hours, and placed in absolute alcohol for an indefinite period; when ready to be examined they must be saturated with paraffin, according to the Naples method.

Something may be said also in regard to our ideas being in favor of the parasitic origin of the disease, for many cases have been reported in which the disease appeared to spread by contiguity—for example, when disease in the lower lip appears to originate disease in the upper lip, at the point of contact; and the same may be said of the tongue and anterior pillar of the fauces, and *vice versa,* the vocal cords, the glans penis and prepuce, the labia majora, etc. In these cases the disease begins in one part and grows in the ordinary manner, the healthy part in contact

with it subsequently becoming diseased. Such cases have been reported by Bergmann, Semon, and Schattock; also Fenwick's case, in which the two contact surfaces of the bladder were diseased; or the occurrence simultaneously of primary cancer in different parts of the same individual may perhaps favor the idea of this disease being of parasitic origin. Such cases are mentioned by Ubesser, viz., primary flat epithelioma of tongue, and primary cylindrical epithelioma of the jejunum; cylindrical epithelioma of pylorus and gelatinous cancer of cæcum, as primary diseases; cancer of both ovaries, and adenoid carcinoma of uterus occurring simultaneously; and many others.

Against the theory that carcinoma is caused by microörganisms a great deal may be said, and has been said: thus Russell found his fuchsin bodies in many tissues, physiological and pathological. Other pathologists have variously explained the microscopic character of the bodies said to be coccidia, as being due to different causes, viz., vacuolization of the epithelial cells, changed leucocytes which have penetrated the body of the epithelial cells, colloid and other degenerations of the cells, etc. The great argument against a parasitic theory is that no attempts at inoculation, ingrafting, or injecting of cancer mass or cancer juice have been successful. The direct transition of an epithelial cell into a cancer cell has been observed and demonstrated, and those who most recently have examined cells in which the parasites were present admit that the cancer cell is a changed epithelial cell, the change being caused by the irritation of these bodies, which have penetrated the cell. When a metastatic secondary growth exists, this is found to have the same histological characters present in the primary growth. For example, if a growth in the liver secondary to adenoid (cylindrical) carcinoma of the rectum or stomach be examined, it will be found to consist of cylindrical cells, such as do not normally exist in the liver. Unless protozoa have the function of locating themselves in the liver cells, and then transmuting them into cylindrical cells, we must conclude that a greater or less mass of cells has escaped, or been separated from the original growth, and having been translocated to the liver these cells acquire the power of assimilating nutritive elements, multiplying and reproducing a secondary growth indistinguishable from the primary one; the cancer cells, and not the parasite, cause metastasis, and without this transmigration of cells there could be no secondary growths.

A very important argument against the coccidium being the cause of the cancer, or at least explaining the whole causal rela-

tionship between the two, is this: when the disease commences in one kind of epithelial cell, and spreads by continuity of tissue to epithelial cells of another character, the histological character of the growth does not change; thus if the disease commences in the flat epithelial cells around the anus, and spreads to the adenoid tissue of the rectum, the growth remains a flat epithelioma, and does not become a mixed epithelioma and adenoid carcinoma. The same holds good when the disease spreads from the esophagus to the stomach. Why should the parasite penetrate the flat epithelial cell and not the cylindrical cell, or *vice versa?* The differences existing between the natural history of cancer and that of diseases known to be caused by microörganisms are at present irreconcilable.

The statistics of all the counties in the Thames Valley show a cancer death-rate higher than that of England as a whole; there is an increase in the later decennia over the former of between one and two per cent, and as a rule a larger increase in the riparial districts than in the non-riparial. The figures are compared with the total number of deaths from all causes by a method which can give only approximately accurate results. The conditions in regard to age and sex distribution in the main districts vary but slowly, and there is little liability to error in comparing the cancer death-rates of the same district or town at the different periods. The statistics seem to justify the conclusion that the Thames Valley has a relatively high mortality from cancer, and the uniformly high rate on both of the banks suggests that there may be a connection between the river floods and the extent of the disease, but it is not explained. Presuming a parasitic origin of the disease, the drying vegetation on the river banks may be a favorable nidus for growth of the parasite, and the facts seem rather to support this view, but it does not explain the cause of the increase of cancer which is everywhere apparent. Given, however, other unknown predisposing factors, lowered vitality and impaired resistance, we may have along the banks of the river a more or less constant manufactory of the materies morbi.

The relationship between trauma, chronic inflammation, prolonged irritation, the reduced resistance of tissues such as is found in scars, and cancer, is now recognized as important; for every surgeon has met with cases in which the origin of the malignant disease appeared due to injury, and in which an epithelioma, if not actually caused by, was initiated by irritation, such as a sharp tooth in contact with the tongue.

In order that cancer may be developed as a result of the irritation, a certain condition of things must exist—*i.e.*, a disturbed biological relationship of the cells, both intrinsic and in regard to their connection with surrounding parts. As man approaches the "cancer age," or when he has attained to this period in life, the relationship of the epithelial cells to the parts beneath is changed in a marked degree; for example, the subepithelial tissue is less in amount and the connective tissue spaces are larger, the columns of epithelial cells becoming longer and deeper and showing signs of branching, penetrating further into the widened connective tissue spaces. There is also a disproportion in the nutritive supply to the cells and the parts beneath, and should this state of things be intensified by continued irritation, the epithelial cells extend further into the parts beneath, themselves being penetrated by leucocytes and totally changed in character. There is rapid division of nuclei, increased eleidin containing cells, and the cells acquire the power of heteroplasty—that is, of growing and reproducing themselves in other parts of the body, producing secondary growths. Why irritation does not cause cancer in all cases we do not know; as yet we only know that there must be in the individual affected conditions favorable to its development. There also appears to be some connection between sarcoma and carcinoma in this respect, except that with the former the injury is severe and a single one, whilst with the latter it is long continued or frequently repeated; and even if it should be ultimately demonstrated that carcinoma is caused by microörganisms, it must be assumed that chronic injury must largely enter into the conditions favoring the development of the disease; it is inconceivable that a coccidium or any other parasitic body could enter an epithelial cell if such cell were in an uninjured condition. Every surgeon is acquainted with cases of psoriasis (ichthyosis, leucoplakia) of the tongue and buccal mucous membrane, ending in cancer. Men subject to special forms of irritation of the skin, such as sweeps, workers in paraffin, coal tar, etc., are also subject to cancer. Pokitansky and Friedlander have observed the commencement of cancer of the stomach in the scar of an old ulcer; in this case, as with cancer of the gall-ladder and bile-duct, a large proportion of those affected are women, and when it is remembered that ulcer of the stomach is much more common with women than with men, there is some ground for expecting that cancer also would be found more frequently with these patients.

Hoeber presents a comprehensive study of the conditions

which accompany cancer in Augsburg, Germany, a city of 84,097 inhabitants. The average death-rate is 24.74 per 1000, of which 5.5 per cent are due to neoplasms; the number of fatal cancers in women is 65 per cent to 35 per cent in men. He gives a number of tables and maps showing the cancer houses, the soil, and geological foundation, etc., and the coincidence of tuberculosis. He was unable to discover any connection between the occurrence of cancer and the height, drainage, and other conditions of the houses. Both cancer and tuberculosis were most prevalent in the poorer quarters.

Handley discussed in a series of lectures in the Hunterian course the origin of metastases of cancer of the breast; there are few forms of carcinoma in which visceral deposits are more frequently found; of 329 cases metastases occurred in 77 per cent. The great frequency of visceral metastases is largely owing to the extension of cancerous permeation along the five anastomoses, which piercing the parietes connect the lymphatic plexus of the deep fascia with the subendothelial lympathic plexuses of the pleura and peritoneum and with the mediastinal and portal glands; the dominant factor being the escape of cancer cells into the serous cavities. If when it transgresses the limits of the breast cancer spreads primarily in the deep fascia, the main operative aim next, of course, to complete removal of the breast and of the axillary glands should be the removal of as wide an area as possible of the deep fascia. And if the mode of fascial extension is by centrifugal continuous permeation, the area affected is roughly a circle, and the area of fascia removed should also be circular, with its center at the point of origin of the original neoplasm. Too much attention has been paid to the pectoral fascia and axillary glands, with consequent inadequate excision of the deep fascia in a downward direction over the upper part of the abdomen; to prevent epigastric invasion the usual incision should be prolonged downward over the linea alba for about two inches, the flaps undermined, and the fascia excised as far down as two inches below the ensiform cartilage or even lower, which does not increase the shock of the operation. Excision of the overlying skin and of the underlying muscle must be free, but need not be so extensive as that of the fascia, and removal of the deep fascia is carried out more thoroughly in England than elsewhere, but even there it is deficient in the direction of the epigastrium. Local and intrathoracic recurrence after the operation for cancer of the breast is becoming more and more infrequent, but purely abdominal recurrence is increasing

in relative frequency. A recognition of the danger of epigastric invasion and the adoption of precise means for its prevention will bring about an appreciable reduction in the mortality from mammary cancer.

In the "*x*-ray treatment" of cancer Williams states that the ray affects cells in proportion to their vital activities; it is to be expected that the actively proliferating cells of the malignant growths will be more susceptible to the influence of the ray than the cells of the skin and subcutaneous tissues, which exhibit the vital manifestation in a less degree. This explains the apparent selective action of the ray for malignant growths. If the ray is properly applied, a tumor of this kind may be destroyed and may disappear without any destruction of the surrounding normal tissues. He concludes that the prognosis in the treatment of new growths depends on the character of the growths and on their accessibility to the proper quantity of radiant energy. The tissues composing the malignant growths are especially susceptible to the ray; the prognosis in their treatment depends on their accessibility to a ray of sufficient energy. Success or failure depends on the accomplishment of these two objects by the proper coördination of the variable factors in applying the ray. The light may have the proper energy, but unless it reaches the whole of the tumor, especially the periphery, where the most rapid growth takes place, it will be of no avail; the light may reach every part of the growth, but unless it has sufficient energy it will not accomplish its work. The deeper the growth the more doubtful becomes the prognosis, because of the difficulty of carrying deep into the tissues a ray of sufficient energy to destroy malignant cells without destroying the overlying tissues. That moderately deep growths can be affected has been shown by many well authenticated cases. The difficulty has been in establishing a technique by means of which results may be obtained with a fair degree of constancy. Williams illustrates this: If a carcinoma four inches below the surface is being treated and the time required to destroy carcinomatous cells on the surface be one hundred minutes, with a tube at a distance of ten inches, let us assume that one hundred and eighty minutes will be required to destroy the healthy cells, the tube being at a distance of ten inches. According to the law of the variation of intensity, the equivalent of one hundred minutes at ten inches is two hundred minutes at fourteen inches. In other words, to destroy the growth at fourteen inches there must be an exposure of two hundred minutes, which would cause a necrosis of the overlying

tissues. But if we place the tube eighteen inches from the surface the growth will be twenty-two inches from the tube. The number of minutes required to destroy the growth will be five hundred, and the number of minutes required to produce a necrosis on the surface at eighteen inches will be six hundred. Thus we see that it is possible, by increasing the distance from the tube, to destroy a deep growth without destroying the overlying tissues. What is impossible to accomplish with a tube at ten inches is possible with a tube at eighteen inches. For superficial growths the ray is indicated because it is so uniformly successful, its application is painless, there is less scar and deformity, and the growth is less apt to recur than with any other form of treatment. For deep growths, until we can show more uniformly good results, radical surgical procedures should be recommended, but we must give the patient the benefit of the probabilities and not possibilities. It is rational that the surgical procedure should be followed by sufficient *x*-ray exposure to destroy malignant cells several inches from the surface. This is possible, as has been shown, and the patient should have every possible chance to have the malignant cells completely eradicated or destroyed. Inoperable cases should be treated with the ray because remarkable results have been obtained, and the most distressing symptom, pain, may at least be relieved. It is by means of these cases that we must demonstrate the value of the *x*-ray and so extend its usefulness. From his experience Williams concludes that the *x*-ray is an agent that has a specific and destructive effect on malignant tumors by taking away the life of their cells, and that its application in treatment is limited only by the ability to reach the growths with the proper amount of energy and safety to the patient.

UTERINE FIBROIDS.

BY J. H. EVANS, M.D., PALESTINE, TEXAS.

A good classification of these growths would be as follows: One situated near the mucous membrane, and, as it develops in size, is projected into the uterine cavity and carries before it the mucous membrane, is known as a submucous fibroid. One situated near the outer wall, which projects into the abdominal cavity, carrying before it the peritoneum, is known as a subperitoneal fibroid. The varieties which are embedded in the uterine wall and project internally and externally are known

as interstitial fibroid tumors. We have a great many of these tumors; the entire organ may be taken up by these growths, some of which may be subperitoneal, some submucous, and the majority interstitial. The submucous variety is most frequently accompanied by hemorrhage, said by good authority to be due to interference with the circulation in the mucous membrane; the pressure from overdistention leads to enlargement of the vessels, the muscular coat becoming paralyzed, and when the vessels rupture, having no contractile power, this is followed by intractable hemorrhage. This variety, when pedunculated, is known as polypi.

The uterine cavity is largest with the interstitial and least affected by the subperitoneal fibroid. According to good authority, uterine fibroids are rare before thirty years of age, while they are quite frequent from thirty to forty-five, and diminish in frequency thereafter. It is a well known fact that they occur more frequently in the negro race, but from my limited research I am unable to assign any cause for the phenomenon. Fibroid tumors vary in size from a boy's marble to the enormous weight of a hundred pounds. Bill Nye said he saw one so large that "the woman had to be removed from the tumor."

The treatment of fibroid tumors of the womb is one of the most difficult problems which the general practitioner has to solve, especially in the country among the poorer class, who are not able to leave their homes and go where they can get hospital accommodations, as well as competent and experienced gynecologists. Of course, with this class of patients we have to rely on our own resources, and operate when necessary, money or no money, from a humanitarian standpoint; and oftentimes our patient dies for want of good nursing and healthful surroundings. My first experience in dealing with fibroid tumors dates back some fifteen or sixteen years, very soon after beginning my professional career. If I may be pardoned for digressing, at this juncture I wish to warn my brother practitioners against the reckless and routine use of ergot.

Case 1.—Mrs. O., aged about forty-five, inclined to obesity, mother of one child. The tumor seemed to be interstitial, and as large as a child's head. Dr. R. was the attending physician, and said the woman had been bleeding for some time profusely, and for which he had been using fluid ergot. At the time I was called in two other physicians were called. We proceeded to examine the case, and found the tumor dilating the cervix and partially extruding from the cavity of the uterus. She was

having bearing-down pains as though she were in labor. Dr. F., being the oldest and most experienced, proceeded to dilate with his finger, and after a more thorough examination we decided that it would be best to continue the ergot for a while longer, thinking it would probably control the hemorrhage, and force the tumor further down into the cavity of the uterus (it being mostly interstitial), and offer a better chance for its successful removal. We left it with the attending physician, with the understanding that we would not return until notified. I was called in consultation again some four or five days afterward, and one of the most sickening sights I ever saw presented itself. I found the tumor had begun to slough, and being a putrid mass, the os being dilated, we introduced our fingers and scooped out a large quantity of the sloughing débris, washing out the cavity with hot carbolic solution, also permanganate of potash solution. But nothing did any good (the ergot had done its work). The whole tumor, which included the womb proper, was a gangrenous mass. The woman died of septic peritonitis.

Case 2.—Mrs. L., aged thirty-five, mother of several children, the wife of a Methodist minister, consulted me for an abdominal tumor about the size of an orange. I diagnosed it as a subperitoneal fibroid, which opinion was confirmed by other physicians. I prescribed muriate of ammonia in ten-grain doses, three times daily, and continued it for three months. I also gave mur. tr. iron when indicated, and ergot to control hemorrhage. To my surprise the tumor gradually reduced in size, and finally disappeared altogether. The woman is living now, and so far as I know is free from any tumor. This occurred twelve years ago.

Case 3.—Mrs. K., aged fifty, no children, having married after the menopause, consulted me ten years ago. I examined and found a pedunculated fibroid springing from the right side of the internal os; small pedicle. I dilated the cervix and divided the pedicle close to the mucous membrane, and cauterized the stump with pure carbolic acid. No hemorrhage to amount to anything, and she made a rapid recovery.

Case 4.—A negress, aged thirty-two years, widow, and mother of two children (both having died in infancy), consulted me in 1894 for abdominal tumor. She was at that time flowing profusely, and having cramp-like pains in the tumor region. She claimed she had been suffering for some time and could get no relief, notwithstanding she had consulted several excellent physicians. All of them prescribed for her, but advised her to have the tumor removed by an operation; and being of that opinion

myself, I explained to her the nature of the operation and the danger of its performance. After due deliberation she decided to have it done. Having prepared her according to modern methods, rendering the field of operation, instruments, and our hands as thoroughly aseptic as possible, with able assistance I proceeded to operate by making an incision about five inches long in the linea alba. Upon entering the peritoneal cavity I found a tumor about the size of a child's head, which proved to be a fibroid or fibroma of the uterus. The whole organ was involved, and its walls were about the same thickness in all parts, about two inches, and of a stony hardness. . The tumor was movable, adhesions being slight. I proceeded to do a hysterectomy by tying and cutting off each broad ligament. I then passed a double silk ligature through the neck, low down, tied, and amputated. I then anchored the stump to the lower angle of the incision and treated it as an open wound. My main reason for carrying out the extraperitoneal mode of treatment in this case was that the stump was unusually large, and I wished to avert all danger of subsequent hemorrhage or septic infection. I approximated the peritoneum with animal ligatures, and the skin with silk. With the exception of a few stitch abscesses she made a rapid recovery, and is living to-day.

Case 5.—Mrs. L., aged thirty, mother of one child. She consulted me three years ago for bladder trouble. I prescribed the usual remedies, but without relief. She consulted me time and again for same trouble. I made a more thorough investigation, and found the cause of the bladder trouble to be from the pressure of a fibroid tumor, situated in the anterior wall of the uterus, and a little to the right. The tumor appeared to be about the size of an orange, and as it continued to increase in size she began to flood during menstruation. I tried the usual remedies, but without the desired effect. She continued to flood more profusely, until it became so alarming I decided to curette. This had the effect of checking the hemorrhage for a time, but it returned, and she continued to flood until she was reduced to a condition of profound anemia. The skin became sallow, and she had the appearance of one suffering from malignant disease. Having consulted Prof. Franklin H. Martin, of the Post-Graduate Medical School of Chicago, in 1898, and explained to him the nature of the tumor and the weakened condition of the woman, I decided (at his suggestion) to ligate the uterine arteries; so in the following month of June I proceeded to operate, with the assistance of Drs. Reed and Link. I first

dilated the cervix and curetted thoroughly with an irrigating curette, using a hot solution of bichloride, followed by hot sterile H_2O. Then with the volsella forceps to steady the os I made a right lateral incision about one and one-half inches in length, hugging the cervix and uterus closely. The arteries being misplaced and greatly enlarged, I accidentally cut both the uterine and anastomosing branch of the ovarian. The tumor or womb being so high and large, it was impossible for me to bring it down within reach to tie, so I had to use artery forceps. I clamped all the bleeding vessels, which were numerous, the blood seeming to be spurting from all directions. I then packed the opening with strips of iodoform gauze. The hemorrhage having been so alarming, and the field of operation so difficult to reach, I decided to abandon the effort to tie the left uterine artery. She stood the operation remarkably well, considering the condition she was in to begin with. I removed the forceps forty-eight hours after the operation, and repacked lightly with iodoform gauze. The following day I removed it and used a douche of bichloride, and continued to employ it daily for some two weeks. Drainage being so perfect the wound healed nicely by granulation, and she was able to be up the third week. Her first menstrual period was attended with less pain, and the hemorrhage reduced considerably. She has improved gradually ever since the operation, menstruates regularly (no intermenstrual hemorrhages), and she thinks the amount of blood lost very little more than normal. Her general health is excellent, and she looks as well as she ever did. I have had an opportunity to examine the case but once since the operation, about two months after it was performed. The tumor at that time was but little reduced in size, if any. I insisted on another examination, but she put me off with the statement that she felt all right and did not need anything more. I prescribed such medicines as I thought would lessen the flow of blood to the reproductive organs, and thus cut off or diminish the necessary pabulum for the growth of the tumor, as ergot, cannabis indica, etc. I also advised against excessive sexual indulgence, recommended good and wholesome food, and a quiet life. I endeavored to convince her that fibroid tumors never degenerate into a cancer and very seldom prove fatal, which seemed to calm her fears, and I think her tumor has gradually shrunk away, and may wholly disappear after the climacteric. There is no question that the woman is greatly benefited by the operation, but just how long she will continue to improve remains to be seen.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

BEHRING'S REMEDY FOR TUBERCULOSIS.

Among the eight hundred communications which were offered to the International Congress of Tuberculosis, none perhaps was more significant, at least from the standpoint of anticipation, than the contribution of Professor Behring. The celebrated discoverer indicated that in the near future he would be ready to offer to mankind a remedy for tuberculosis which would be as effective for that disease as the antitoxin has been for diphtheria.

While not specifically indicating the formula of his remedy Professor Behring vouchsafed several indications of its nature. For the last two years he said he had recognized with certitude the existence of a curative principle entirely different from the antitoxic principle described by him fifteen years ago. This new curative principle is the essential curative principle which characterizes his "bovovaccin," which for the last four years has been employed in the war against bovine tuberculosis. This principle rests on the impregnation of the living cellules of the organism by a substance proceeding from the virus of tuberculosis, which for the sake of convenience he names T. C.

When T. C. has become an integral part of the organism of animals treated by it, and when it has been metamorphosed by its cellules, he calls this T. X.

In the bacillus of tuberculosis T. X., or rather the preëxisting T. C., is endowed with many unusual qualities. This agent fulfils in the tubercle bacillus the functions of a formative substance, but besides this possesses fermentative and catalytic functions.

This agent has also absorptive and assimilating qualities—in a word it represents the vital qualities of the bacillus.

In the process of immunization of cattle to tuberculosis Behring uses a T. C. of the bacillus which is freed from accidental substances. This exercises a symbiotic action on the exterior of the organic cellules, and particularly on the cellular elements derived from lymphatic tissue. The presence of the T. C. is the cause of hypersensibility to Koch's tuberculin on the one hand, and of the protective reaction on the other.

It has been a long route full of obstacles which Behring says he has had to travel before he reached the conception underlying his method of immunization. This, as has been said, is the conception of a cellular immunity, which is a totally different thing from the immunity based on humoral and antitoxic conception. The cellular conception is based on intimate knowledge of Metchnikoff's doctrines.

It is impossible to do justice to Behring's discoveries on the meager details which are at present available. In freeing T. C. from substances hindering its therapeutic action he has recognized three groups of bacillary substances: A toxic substance soluble in water, which he calls T. V. A., a gramme of which is more powerful than a liter of Koch's tuberculin; then there is a globulinous substance, also toxic, which he designates T. G. L.; and besides these several substances of a non-toxic character. When the bacillus has been freed from these substances it is called the "Restbacillus." This product still possesses the tinctorial reactions of tubercle bacillus. The T. C. so produced is amorphous in form and can produce, says Behring, a tubercle which does not caseate or break down adjacent tissues. This tubercle corresponds in character to the granulation tuberculosis described by Laennec.

It is this product isolated from toxic substances which, elaborated *in vitro*, will, it is thought and hoped, form the agent which will insure protection to mankind against the scourge of tuberculosis.

EDITORIAL NOTES.

Hydrophobia Caused by the Licking of a Rabid Dog.

That hydrophobia may be communicated without an individual being bitten by a rabid dog is clearly shown by a case which was recently reported in a French medical journal. A farmer aged thirty-six had a bitch which was bitten on July 3, 1904,

and died from hydrophobia on a date which the patient estimated as being between July 14 and 17. This bitch was sucking a puppy, which was at that time three weeks old, and about a month afterward it presented the same symptoms as its mother—namely, aversion to water, laryngeal spasm which prevented deglutition, convulsions, and finally paralysis; the animal did not drink, and had no propensity to bite. It was killed by the patient about August 15. The patient was perfectly certain that he had never been bitten by any of his dogs, but he had several times been licked by them on the hands, the skin of which was quite sound according to his statements; he might not, however, have remembered all the circumstances, and it is probable that the skin might have been cracked. The patient having no suspicion of danger did not speak of the matter, and was not treated by Pasteur's method. His health remained excellent until September 22, exactly five weeks after the death of the dog, when he had a restless night and suffered from vomiting, diarrhea, distaste for food, and epigastric pain. At the same time he had symptoms of nervous irritability, anxiety, and distress. A medical man who was sent for thought at first that the case might be of gastric origin, but on the second and third days the symptoms included terror at the sight of liquids and became characteristic of the disease. On further inquiry the medical man was told about the dogs, and the patient was sent to the antirabic institute at Lyons, where he died in forty-eight hours with convulsive attacks of extreme violence. Rabbits which were inoculated with his cerebrospinal fluid or with portions of his central nervous system (cerebrum, cerebellum, and bulb) all showed characteristic symptoms, and all died from hydrophobia after an interval varying from fifteen to twenty days. The evident conclusion to be drawn from this case is that a person who has been licked or who has fondled a dog that later becomes suspected of having hydrophobia ought to consider himself in danger, and take the necessary steps to prevent the disease.

President Roosevelt and Brutal Football.

An item that has recently been going the rounds of the lay papers says in effect that President Roosevelt is making strenuous efforts to persuade the captains of a number of the great Eastern football teams to do away with the brutality that exists in the game as it is now played. That the President is to be

greatly commended in his efforts goes without saying, for each year brings its number of serious accidents and fatalities. We understand that in the future any member of the football teams representing either West Point or Annapolis who is found guilty of brutality during a game will be dismissed from the service. Such a plan would help greatly if adopted by our universities. Although the conditions differ greatly, if the university players were made to understand that brutality meant dismissal and disgrace, we would not hear of the serious accidents that at present occur. We can only hope that success will crown the President's efforts.

Hygroscopic Substances as Dust Preventers.

Dust which is the cause of so many diseases is a nuisance every one has to continually fight, and as a rule with not very great success. A French scientist has recently suggested a method by which the dust that settles on floors may be prevented from rising. He recommends that floors should be wetted with a solution of chloride of magnesium, a very hygroscopic salt which will cause the floor to remain damp for some time; the dust is thereby moistened and can be swept up without rising in the air as usual. Two applications of a solution of chloride of magnesium at an interval of some days will render a floor capable of fixing the dust for six months. Floors treated in this way are said to preserve for a long time a remarkably clean appearance. The general adoption of this simple procedure would doubtless prevent many an infection from occurring.

ITEMS AND NOTES.

Boston is alarmed about the prevalence of typhoid fever on her watershed.

Bubonic plague exists at present in an epidemic form in a number of places on the coast of Peru.

John D. Rockefeller has promised to erect a $50,000 building to be used as a foundling home by the Cleveland Humane Society.

The late sanitary expert, Dr. Gobunrek, left 250,000 marks to be lent without interest to women who study medicine in Germany and Austria.

Instruction in first aid to the injured is to be given to the New York police force by Dr. Kilmer, who has been specially engaged for this service.

Land has been secured on the south side of Chicago, and a maternity hospital, thoroughly modern and perfectly equipped, is to be constructed at once.

Prof. William P. Tonry, M.D., Ph.D., of Baltimore, a prominent chemist and toxicologist, died of heart disease on October 3, aged sixty-five years.

The Wesley M. Carpenter Lecture was delivered at the New York Academy of Medicine by Dr. Simon Flexner on Thursday, October 19, on the "Etiology of Syphilis."

A case of cholera in Berlin was officially announced on September 23, the victim being a canal bargeman, who died on his coal barge in one of the Berlin canal harbors.

The Sydenham Hospital is the name decided upon for the new municipal hospital for infectious diseases, for the erection of which on the Hardesty tract of land, in Baltimore, the city has made an appropriation of the sum of $25,000.

The Herter Lectures, established by Dr. C. A. Herter at the New York University and Bellevue Hospital Medical College, will be given this year by Prof. Carl von Noorden, chief of the City Hospital of Frankfort, Germany. His subject will be "Diabetes."

On August 14 one of the most valuable anatomical collections in the world was lost in the fire which destroyed the medical hall of the University of Pennsylvania. The loss is estimated at $150,000. The anatomic collection cannot be replaced.

Senator Redfield Proctor, of Vermont, in a letter to Dr. W. N. Bryan, of Ludlow, secretary of the Vermont State Tuberculosis Commission, announces that he will purchase a site and erect a sanitarium at a cost of about $50,000 in this State for the treatment of incipient cases of tuberculosis.

In order to prevent spread of the bubonic plague from the Mongolian village of Dalai-Nor, situated near the Russian frontier, the inhabitants have been transported to a quarantine station some distance from the railway and the village has been burned. Troop trains bearing soldiers returning to Russia have been forbidden to stop at the station.

Professor Eberth, director of the Pathological Institute in Halle and discoverer of the bacillus of typhoid fever, celebrated his seventieth birthday on September 21. He was born in Würzburg and received his medical education there. In 1865 he was appointed professor of pathological anatomy in Zurich, and was called to Halle in 1874.

At the fourteenth annual meeting of the Association of Military Surgeons of the United States, which opened in Detroit on September 27, Major Jefferson Randolph Kean, U. S. A., of Washington, D. C., was announced to be the winner of the Seaman prize for 1905. This is a prize of $500, offered for the best essay on "The Prevention of Disease in the Army and the Best Method of Accomplishing that Result."

On the initiative of Professor Debove, dean of the Medical Faculty of the University of Paris, the French Superior Council of Public Instruction has adopted two measures which seem likely to be useful in the interests of the public health. To the programme of study of normal schools for male teachers instruction in the elementary facts of venereal diseases is to be added, and that for female teachers will henceforth include puericulture.

At the Congress of French Alienists and Neurologists recently held at Rennes it was agreed that the meeting in 1906 should take place at Lille. Professor Grasset was elected president. The subjects proposed for discussion are: (1) Cytologi-

cal, bacteriological, and experimental study of the blood in the insane (reporter, M. Dide); (2) the senile brain (reporter, M. Leri); and the responsibility of hysterical persons (reporter, M. Antheaume).

Extravagance in the management of the United States Marine Hospital Service is claimed as a result of an investigation ordered by Secretary Shaw, and Congress will be asked to enact legislation which will bring about reforms. It is the present intention to recommend the abandonment of several marine hospitals now being supported by congressional appropriations, and also the curtailment of rosters of physicians and attendants in other institutions of this kind. The cost of maintaining the Marine Hospital Service has more than doubled since 1897, being now more than $1,000,000.

The old question of professional ethics, as applied to advertising by physicians, is agitating the New York County Medical Society. The trouble is due, says an exchange, to a large number of the society's members, including the president, paying to have their names in a telephone directory, in what are declared to be advertisements. It is the unwritten law of the County Medical Society that no physician shall advertise, display a sign telling of the specialty he practices, or even note his work on his professional card. Several of the members of the society are insisting that the offenders be expelled.

An official return states that the number of students attending the University of Vienna during last summer session was 6164, of whom 812 were ordinary students in the medical faculty. There were, in addition, 28 women medical students and 234 students in special subjects. In the medical faculty of the University of Innsbruck there were 89 students; in that of Graz 176, and three women students. In the medical faculty of the German University of Prag there were 159 students and seven women, and in that of Czech University of the same city 291 men and four women. In the medical faculty of the University of Lemberg there were 87 male students and 10 women, and in that of Krakau 130 male and 22 female students.

The International Tuberculosis Congress was opened in Paris on October 2 in the presence of President Loubet, the cabinet ministers, and the ambassadors. Over 3500 delegates were present. The American official delegation consisted of Dr. Henry Barton Jacobs of Baltimore, Dr. S. A. Knopf

of New York, Dr. Lawrence F. Flick of Philadelphia, and Medical Inspector Henry G. Boyer of the United States Navy. Many other Americans, delegates from various societies, were present. The opening address was delivered by Dr. Herard of the French Academy of Medicine, who was chosen president of the congress. The report of Dr. Letulle, the secretary, said that thirty-three nations were represented in the Congress. An invitation has been extended through the American ambassador to hold the next Congress in this country.

Dr. Heman Spalding, chief medical inspector, Chicago, reports that the appointment of a staff of vaccinators for the public schools was completed before the beginning of the school term. Over two hundred vaccinators are equipped and ready to furnish free vaccinations to all schoolchildren who apply at the school premises. Last year a few entered school upon false certificates of vaccination signed by doctors. Some of these contracted smallpox and a few died as the result of this criminal practice. One child permitted by the principal to enter school without any certificate of vaccination remained in school two weeks, contracted smallpox, and died of that disease a week later. No vaccinated school child contracted the disease, though exposures to smallpox were numerous. The vaccine to be used by the public vaccinators is tested in the department laboratory, and is rejected if any impurities are found.

The International Association for Labor Legislation is prepared to offer the subjoined prizes for the best effective means that can be devised for the prevention of lead poisoning in men employed in mining, smelting, and refining lead ores, and in persons who manipulate lead compounds or are otherwise brought into contact with them. A prize of $1250 is offered for the best treatise on the prevention of lead poisoning in smelting and refining works; two prizes, (1) $625, (2) $375, for similar treatises relating to white-lead works, paint works, manufacture of electrical accumulators, etc.; four prizes, (1) $375, (2) $250, (3 and 4) $200 each, for house, ship, and coach painting, etc; and four prizes, ranging from $375 to $185, for the best treatise on the prevention of lead poisoning in trades where raw and manufactured lead are consumed or handled, as in type foundries and printing offices. The essays must be sent in to the International Association for Labor Legislation, Basle, Switzerland, not later than May 15, 1906.

THERE has been a notable increase during the past year in the number and variety of the surgical operations performed by naval surgeons, says the *Army and Navy Register*, and this fact will be shown in the coming annual report of the surgeon-general of the navy. Time was when such work was considered beyond the ability of a navy surgeon, and consequently many men were lost to the service by discharge for disability. All this is changed by the facilities which exist at the naval hospitals and the skill of the surgeons themselves. The latter are capable of performing such operations as were once regarded as the work of specialists in the profession. An example of the promptness with which the naval medical corps is able to meet the increasing demands made upon the members is afforded by the treatment of the Russians at the new hospital at Canacao in the Philippines. There were some eighty cases at that institution, mostly shell wounds, and the hospital has rendered a distinct service in its effective handling of many serious cases.

THE deaths of the following eminent foreign medical men are announced: Dr. Bernhard Heinrich Laehr, who may be looked upon as the doyen of German alienist physicians, having been born in 1820. He was especially eminent as an organizer of asylums, and founded the Allegemeine Zeitschrift für Psychiatrie.—Dr. Karl Schweigger, formerly professor of ophthalmology in the University of Berlin, at the age of seventy-five years. His student days were spent in Erlangen and Halle, and his first teaching post was under Professor Krukenberg, the Halle professor of internal medicine. He afterward worked for many years under Henrich Muller in Würzburg, and von Graefe in Berlin. He also traveled a great deal, visiting ophthalmological clinics in Utrecht, London, and America, and was appointed to succeed his old master von Graefe in 1871. His published works include a well known "Manual of Ophthalmology," "Lectures on the Ophthalmoscope," and "Researches on Strabismus." He was for many years editor of the *Archiv für Augenheilkunde*. He was a great operator, and introduced various ophthalmic operations or modifications of such. He was forced to retire from active work some six years ago by the state of his health.—Dr. Otto von Bungner, director of the Hanau Hospital and formerly assistant in von Volkmann's Surgical Clinic in Halle. He was forty-seven years of age.—Dr. Paul Schubert, an eminent authority on school hygiene. He died at Nürnberg, and was in his fifty-sixth year.—Dr. Adam Kunkel, professor of pharmacology in Würzburg, at the age of fifty-seven years.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Choice of Methods in Operating upon Hypertrophied Prostate.

Willy Meyer (*Medical Record,* Oct. 7, 1905) advocates the use of three methods in general use in operating on the enlarged prostate, according as each method fits the case to be treated. It is not wise to practice one to the exclusion of others. Each of the methods—perineal and suprapubic prostatectomy, and galvanocaustic prostatotomy—has its own decided merits, and holds a distinctive place in surgery. Operation for enlarged prostate must be urgently recommended to most patients with enlarged prostate as soon as it becomes necessary for them to use the catheter habitually. The death-rate following operations is five per cent or less; the mortality due to pyelonephritis resulting from self-catheterization is much greater. The author has performed Bottini's operation on fifty-nine cases, perineal prostatectomy nine times, the suprapubic operation twenty-two times. The only deaths by the perineal method were from the anesthetic in one case, and in a case almost moribund at the time of operation. Of the twenty-two suprapubic operations, seventeen cases of benign hypertrophy are living; two died of causes not due to the operation; three cases of cancerous hypertrophy died of causes due to the nature of the disease. The author believes that it is possible to cut the grooves with the galvanocautery both deep and wide; that a median lobe is a contraindication to the Bottini operation, if it is possible to do an enucleation; the cystoscope is of value in explaining the conditions at the neck. Bottini's operation, even when done twice, does not prevent a prostatectomy, should that become necessary; being a purely intravesical operation, it has many failures and sometimes entails tedious after-treatment. If radical operation is refused it should be done. When prostatectomy is done full power over the urine is obtained. A small portion of the urethral mucous membrane may have to be removed with the gland, but it is no disadvantage. There is little choice between the perineal and suprapubic routes. In the perineal operation there is a rapid return to normal control of the urine, and leakage over the abdomen is not present. The suprapubic operation can be done in less time. Cystoscopy should

always be performed before Bottini's operation as the hypertrophy may be entirely intravesical. In advanced carcinoma Bottini's operation is to be preferred, since all the cancerous metastases cannot be removed. A gland palpable by rectum and rising not far from the sphincter muscle can best be attacked from below; when higher up and projecting into the bladder it should be operated on from above. When soft and composed of small lobes, operate from below. When complicated by a large calculus, work from above. The preservation of sexual power is important, and the suprapubic method retains it in the largest number of cases.

The Enlarged Prostate: Its Nature, Symptoms, and Treatment.

C. Wallace (*Practitioner,* September, 1905) in discussing the function of the prostate says: (1) That it may be a sphincter of the bladder; (2) that it may be a secondary sexual gland. The latter theory is proved by well known facts. The theories as to the cause of its enlargement are: (1) That it is a senile fibrotic change; (2) that it is produced by sexual excess; (3) that it is due to ungratified sexual desire; (4) that it is secondary to sexual degeneration of the bladder; (5) that it is due to perverted testicular secretions; (6) that it is a change normal to advancing years; (7) that it is due to a chronic inflammatory process; (8) that it is an inflammatory catarrhal process; (9) that it is a new growth of an adenomatous nature.

As to the appearance of enlarged prostates: (1) The changes do not occur before middle life; (2) there are white, opaque areas of gland tissue in the normal spongy tissue; (3) these areas often form encapsulated tumors; (4) these tumors contain more fibrous than muscular tissue; (5) there are areas of round-celled infiltration in the organ; (6) the alveoli contain desquamated epithelium cells, polymorphonuclear leucocytes, and amyloid bodies.

The author believes the enlarged prostate is a new growth. The noteworthy clinical symptom is either frequency of micturition or retention. The forces which act in frequent micturition are: (1) Increased tension of the urethra; (2) pressure on the outer side of the intravesical cone; (3) forcing of a large lobe against its smaller fellow. The cause of residual urine is not clear; several factors are adduced. Palliative treatment consists in properly regulated catheterization and rest in bed. Opera-

tive treatment is indicated: (1) When the catheter cannot be passed; (2) when it causes pain or hemorrhage; (3) when there is complete retention. Operation may consist of castration, vasectomy, or prostatectomy. The last of these is usually to be preferred, but not when the patient is suffering from acute retention or exhaustion from sepsis. The ultimate results of the operation are usually most satisfactory.

Ligature of the Innominate Artery.

C. Sheen (*Annals of Surgery,* July, 1905) says that in properly selected cases ligature of the innominate is a reasonably safe and undoubtedly useful operation; suitable cases are those in which the aneurism is of a circumscribed globular character. Unsuitable cases are those in which the aneurism is what is commonly called fusiform, but is often nothing more than part of a general arterial dilatation, and in which there are marked signs of general arteriosclerosis with accompanying visceral disease; the maintenance of asepsis is a main factor in obtaining a successful result; the incision should be central, with horizontal and vertical divisions of the manubrium, if necessary; the carotid should be treated as well as the innominate; silk is the best ligature material; some amount of injury to the inner coats is probably necessary to insure occlusion, but with aseptic conditions such injury does not matter; two ligatures should, if possible, be placed round the vessel, the first turn of the proximal ligature being held tight, so as to keep back the blood while the distal ligature is completely tied; the use of a drainage tube is inadvisable. As study of the recorded cases shows that next to sepsis some cerebral lesion has been the most frequent cause of death after operation, it would be well for future operators to consider the advisability of tying the carotid about a fortnight before the innominate. "Valsalvian" methods of treatment immediately prior to operation are inadvisable.

Ulcer and Cancer of the Stomach: Their Relationship.

C. Graham (*Boston Medical and Surgical Journal,* Aug. 31, 1905) says that the great majority of gastric ulcers are located at the pyloric end. The immediate pylorus comes first, the lesser curvature second. A small percentage is found elsewhere, few at the cardia. The great percentage of cancers of the stomach is found at the pylorus and lesser curvature (pyloric end)—that

is, the same locations find the greatest number of each. Quite a percentage (50 to 60) of patients suffering from carcinoma gives three or four more years of a precancerous history. A growing percentage of cancer cases are found with short histories and ulcer demonstrated as the earlier lesion; a certain percentage, if small, of short ulcer histories, leading to acute pyloric obstruction, where the ulcer must have been present for quite a period and latent. Ulcers may be present for an indefinite period and no symptoms follow until obstruction, perforation, and hemorrhage appear, if the acidity is low or absent and the ulcer locates itself along the lesser curvature or near the pylorus. Cancers may develop under the same gastric conditions and only manifest themselves when obstruction or systemic poisoning makes itself felt. The present need in medical practice is the establishment of earlier and better diagnosis of these two conditions.

Chronic Suppurations of the Urinary Tract.

A. L. Chute (*Boston Medical and Surgical Journal*, Aug. 24, 1905) says that careful localization of chronic urinary suppurations is essential for accurate treatment. The conclusions drawn from the glass tests, as applied to suppurations of the urethra, are often misleading, while those drawn from the irrigation test are more accurate. Without cystoscopic examination it is at times almost impossible to differentiate chronic suppurations of the bladder from those of the kidney. Before operating upon a suppurative lesion of the kidney it is essential that one verify his diagnosis as to which kidney is involved, either by seeing turbid urine issuing from the corresponding ureteral orifice or by ureteral catheterization; reliance upon symptoms alone, even when these seem to leave no doubt, may lead to serious error.

The Use of Movement in the Treatment of Fractures.

Acting on the principle that the bones, like all the parts of the body, require to be freely moved in order that they may attain the full degree of vitality essential for repair, M. Lucas-Championnière (*Lancet*, Aug. 5, 1905), instead of adhering to the classical treatment of fractures by fixation, has replaced it by early mobilization and massage. During the last twenty-five years he has treated a very large number of fractures in this way, and at a meeting of the Paris Academy of Science held on July

10 he described (without entering into specific details) those to which the method was applicable. Among these he enumerated fractures of the upper and lower ends of the humerus; some fractures of the body of this bone; all those of the elbow, including those of the olecranon; many occurring in the two bones of the hand and foot and of the scapula; almost all those of the fibula; many bimalleolar fractures; fractures involving the knee and the neck of the femur; and several fractures of the middle of the diaphysis of the long bones of the leg and arm. The principal advantages of massage and early mobilization were that pain soon disappeared and that the duration of the process of repair was considerably shortened.

Puncture of the Testicle for Diagnostic Purposes.

Posner (*Berliner klin. Wochenschrift,* No. 35) by means of a hypodermic syringe aspirates the testicle in order to determine whether there is an azoöspermia or some mechanical interference with the passage of the spermatozoa. In one case it was shown that the spermatozoa were actively motile within the testicle, demonstrating that the addition of the prostatic secretion is not necessary to render them motile.

MEDICINE.

The Freezing-points of Blood and Urine in Pneumonia.

F. E. Schmidt (*Journal of the American Medical Association,* Sept. 23, 1905) after first reviewing the literature of cryoscopy in medicine, and especially in pneumonia, describes his methods and precautions for thus testing blood and urine, and gives tabulated details of observations in twenty-four cases of pneumonia, in males between the ages of eighteen and fifty, and all apparently in good health before the attack. The tests were made daily, the patients being given essentially the same diet of milk, and later broths and plenty of water, and kept under the regular stimulating treatment. A few had salt irrigations. The freezing-points of the blood and urine, the quantity and specific gravity of the urine, and the amount of urea were recorded, and albumin and casts noted when present. He finds that there is an absolute lowering of the freezing-point of the blood in pneumonia, depending in some way either on the extent of consolidation of the lung or on the height of the temperature,

or both. This lowering is more than can be accounted for by the increased venosity of the blood from deficient aeration. The concentration of the blood increases, as shown by the lowered freezing-point, as the disease progresses, up to the time of crisis. Some time is needed for the elimination of the excessive accumulation of products in the blood; hence several days elapse before the freezing-point rises again to normal. In cases in which the heart perceptibly weakens the freezing-point becomes still lower, and in fatal cases when the heart gives out the freezing-point of the blood is extremely low. The lowered freezing-point of the blood is apparently not due to deficient kidney functions, but may be due to the inability of the kidney to excrete the excessive products of metabolism.

The freezing-point of urine in pneumonia is considerably lowered, more than would be accounted for by a mere concentration of normal urine. The chlorides excreted are diminished on account of a lesser amount taken in (Sollmann). The quantity of the urine is decreased, while the freezing-point is lower, and this lowering is not due to chlorides, but to metabolic molecules excreted. The freezing-point of the urine does not rise to normal until after that of the blood—that is, several days after the crisis. The specific gravity of the urine is no accurate index of its degree of concentration. The freezing-point of the urine bears no constant relation to that of the blood normally, for with a freezing-point of blood at —0.54° C. the freezing-point of the urine may be normally lower than in a case in which the freezing-point of the blood is —0.57° C., or *vice versa*.

Tuberculosis of the Kidney.

J. G. Sherrill (*Journal of the American Medical Association*, Oct. 14, 1905) thinks that tuberculosis of the kidney deserves more attention than it has generally received; it is claimed that it exists in two per cent of all tuberculosis cases. The infection is mainly through the blood, though it may be through contiguity or contact with other infected organs, or may be an ascending one from the genito-urinary tract. Any age is liable, but the condition seems to be the most common in early maturity, between the twentieth and thirtieth years. Figures differ as to the relative proportions of the sexes affected. In case there is a general tuberculosis, both kidneys are involved in two-thirds of the cases, but if the infection is only renal it is usually unilateral. In circulatory infection the bacilli are localized near the blood-vessels and there

produce their characteristic cell proliferation, and the tuberculosis process sooner or later progresses to other portions of the organ, so that localized regions or the whole kidney may be involved. The various pathologic changes are described. In some rare cases a mixed infection may cause destruction of the tubercle bacilli and recovery ensue. In most cases the onset of the disease is insidious. The symptoms are: pain in the back, paraumbilical, subcostal, and lumbar tenderness, vesical irritation, pyuria, hematuria, and albuminuria. The presence of tubercle bacilli in the urine, though important, is not an infallible symptom, as they may be present there without pathologic change in the urinary tract. Nor is their absence proof that the kidney is sound. The general symptoms are those of tuberculosis anywhere. Sherrill is inclined to think that too much stress has been laid on loss of flesh as a symptom.

The diagnosis is to be made by the history, general condition, pain less severe than that in stone, and coming on slowly as a rule, dysuria, polyuria, hematuria, pyuria in acid urine, and the presence of albumin. With these the finding of tubercle bacilli in the urine will be conclusive. The conditions most likely to be mistaken for this disease are: Calculus, pyelonephrosis, renal new growths, tuberculosis of the bladder, and cystitis. The detailed differential diagnosis from these conditions is given at some length. When the bladder is not diseased and the question is between calculus and tuberculosis, Sherrill believes that ureteral catheterization is justifiable, and as a means of diagnosis unequaled. It also tells which kidney is healthy, or at least diseased. The prognosis is usually bad, except when only one kidney is affected, the condition recognized early and treated surgically. Recovery without operation is possible, but is rare. The treatment of course is surgical, but where it is impracticable the usual methods of treating tuberculosis should be employed.

The Relation of Pleurisy to Tuberculosis.

S. Von Ruck (*New York Medical Journal,* Sept. 30, 1905) says that the pleural cavities are readily accessible to bacterial invasion. The great majority of pleurisies with effusion which occur in otherwise healthy individuals are due to infection with the tubercle bacillus. This is proved by autopsy findings, by methods of exact diagnosis, and by the subsequent clinical histories of the majority of persons who have been the subjects of such attacks.

There is ample evidence to indicate that the so-called idiopathic, dry pleurisies are likewise usually tuberculous.

The subjective symptoms of inflammation of the pleural apices often simulate those of myalgia or rheumatism.

In every case of pleurisy, or of persistent pain in the chest or shoulder which cannot be satisfactorily ascribed to other causes, tuberculosis should be suspected, and a careful physical examination should be instituted to determine, if possible, the existence of a tuberculous process in the lungs or elsewhere.

Even if physical examination in such cases proves negative the patient should be regarded as tuberculous until the contrary is proved, and should at least be kept under prolonged observation and reëxamined from time to time.

The tuberculin test may be relied upon to confirm or exclude the tuberculous nature of pleurisy in case of doubt.

The application of these principles will always lead to an earlier recognition of tuberculous disease of the lungs, and especially to the institution of treatment at a period which will in many cases secure to the patient most important advantages in his prospects of recovery.

Some Observations on Aneurism and Arteriosclerosis.

C. N. B. Camac (*American Journal of the Medical Sciences*, July, 1905) sums up his findings as follows:

Arterial disease appears to be rare, almost unknown, in animals. Syphilis being probably peculiar to man is by this observation placed more firmly in the list of etiological factors. Arterial disease in children under six years, even in those who are victims of congenital syphilis, is practically unknown; in those from six to fifteen years it is rare. It is found in the initial stage most commonly between the ages of thirty and forty years. The teratologic factor, though an undeterminable one, is of great importance. Arterial disease seems to be attributable to syphilis in about 32 per cent, to tuberculosis in about 16 per cent. The facts presented go to show that the colored race is affected about four times more frequently than the white. General arteriosclerosis seems to be most commonly found with aneurism, and its presence may be considered as evidence against the probable development of aneurism. Staining with selective stains and treating with a chemical which digests tissue show the elastic tissue to be free of histological alterations, suggesting that this tissue undergoes physical or molecular rather than histological change.

Researches on the Etiology of Syphilis.

Siegel (*Münch. med. Wochenschrift,* No. 29) reports the successful inoculation of rabbits and guinea-pigs with human syphilitic material which he introduced into the tissues of the ear or into a scratch in the iris. In this manner he inoculated fifty animals with syphilis, and from the material obtained from these rabbits inoculated thirteen monkeys with positive results. The monkeys evidenced first the primary and later the secondary lesions of syphilis. The author is the discoverer of cytorrhyctes luis flaggelates in syphilitic lesions, and has found these bodies in all his animal lesions, and is convinced that their cause and relation to syphilis is beyond question.

Typhoid Bacilli in the Bile Passages of Typhoid Patients.

Forster and Kayser (*Münchener med. Wochenschrift,* No. 31) state that from their experience the gall-bladder is a favorite habitat for the typhoid bacillus in both man and animals. The bacilli multiply there frequently for years after the patient has recovered from the fever. They are eliminated from the bile, and the authors believe that a reinfection is prevented either by a local immunity of the intestinal tract, or because there is no portal that they are capable of entering. The writers advise inducing a copious flow of bile and thus washing out the bacteria.

THERAPEUTICS.

The Abuse of Bromides in Epilepsy.

William P. Spratling (*Medical Record,* Sept. 2, 1905) says that years ago he became convinced that the bromides as generally administered did vastly more harm in the treatment of epilepsy than they did good, and his ten years' experience at Sonyea in the treatment of nearly two thousand cases has strengthened that conviction. The bromides do not always do harm, and they have a limited range of usefulness in their power of suppressing epileptic convulsions, but the author has never seen a case cured by the bromides alone. He has never given the bromide of potassium to an epileptic, and says that the cases must be carefully selected for the use of the other salts. At the Craig Colony the average dose of the drug is fifteen grains a day, five grains at a time. The author has analyzed twenty-

seven patent nostrums for epilepsy, and has found that the basis of all of them is bromide of potassium. If recoveries occur under the use of the drug, it is in spite of it and not on account of it. When used the bromides must be prescribed with the greatest caution, and it is rarely necessary to push them to the point of producing acne. Their disadvantages are many, and it is preferable to use other harmless depressants in their stead, and to treat the individual instead of one of the symptoms of his disease.

Therapeutic Value of Digestive Ferments.

Wald Bettman (*American Medicine,* Sept. 9, 1905) reviews the existing beliefs regarding the therapeutic value of the digestive ferments. The exact physiologic value to the system of gastric digestion has never been made clear. It is now known that the quantity of pepsin in the stomach does not run a parallel course with the quantity of HCl. Pepsin is more resistant to disease than the other gastric secretions. In many disorders, however, the quantity of pepsin is below the normal, or pepsin may be entirely absent. In these cases the administration of pepsin would seem to be theoretically indicated. In practice the administration of pepsin rarely does good in chronic cases. Some patients are temporarily benefited. In France many favorable reports have been published regarding the administration of dog's gastric juice. It is highly probable that animal gastric juice acts merely like a corresponding solution of HCl and pepsin, and that equally good results could be obtained by giving HCl in corresponding doses. The indications for the use of pepsin and other digestive ferments (diastases, pancreatin) are discussed in detail.

Lactic Acid in Gonorrhea.

C. Chandler (*Journal of the American Medical Association,* Oct. 7, 1905) advocates the use of lactic acid for the treatment of gonorrhea of the cervix in preference to other methods. He has employed it in thirty-four cases. His method is as follows: Cleanse the vagina and cervix thoroughly with warm water and cotton soaked in a watery solution (four to six ounces) of pyroligneous acid. Expose the cervix by drawing it downward and into view with a long tenaculum; then take an ordinary hypodermic syringe loaded with pure lactic acid and inject a few

drops just beneath the membrane. Continue this until the whole of the cervix is injected. It may be done in one sitting, or in a nervous case, if desired, in two or three sittings. He concludes from his experience with this and other methods that lactic acid cures cervical gonorrhea, has no ill effect, and prevents the spread of the disease into the body of the uterus if used sufficiently early. Ordinary douches and painting the cervix give only temporary relief; it is better to destroy the cervical glands, and this should be done as soon as a positive diagnosis is secured. Both the discharge and the cervical membrane should be examined before excluding gonococci, which are the cause of most chronic discharges. This method of injecting the cervical glands with lactic acid, he believes, is the best prophylactic against future disease of the tubes, etc. A too deep injection of the lactic acid may cause an annoying, though not a dangerous, slough, lessening the good result; caution against this is therefore advisable.

Treatment of Severe Burns.

Widenfeld (*Wiener med. Presse,* No. 24, 1905) experimenting on rabbits and guinea-pigs found that these animals died when septic particles of the skin of the same species were introduced into their peritoneal cavities, whilst they lived when the skin was previously exhausted with water or boiled for some time. From this he concludes that the skin contains a toxin which is soluble in water. The prognosis depends on the depth of the burn and the area affected. He suggests the use of analeptics and warns against morphine, which in this condition has proved fatal. Infusions of 4 to 5 liters per day are of great service, and the operative removal of sloughs is advocated. His results have been very satisfactory, as all have recovered. In some cases the burn involved one-fourth to three-eighths of the body.

Action of Radium on the Tissues.

A. Thies (*Mittheilungen a. d. Grenzgebieten der Med. und Chir.,* No. 5, 1905) finds that the action of radium on the tissues is by no means always destructive, but that in many cases the cells proliferate rapidly. The cells of the skin increase and resemble a superficial epithelioma. The blood-vessels particularly are affected by radium rays, and this fact has been used

with good results in the treatment of angioma. Two large angiomata on a child were exposed to the action of the rays for one hour. In the course of two weeks a large scab formed which was thrown off after another week, in six weeks the vessels were not visible, and in place of the angioma the skin was normal. In another case a large angioma was exposed for one and a half hours, and in six weeks a slight scar was all that was left of a marked disfigurement.

Effect of Roentgen Rays on the Blood.

Linser (*Deutsche Arch. für klin. Med.*, Bd. 83, 1905) finds that the *x*-rays destroy the leucocytes, especially the lymphocytes, in the circulating blood. As a result of this destruction of the leucocytes a leucotoxin is produced, and if a serum containing this leucotoxin be injected into an animal a destruction of the leucocytes will follow. With this leucotoxin it is possible to immunize against leucotoxin. It is rendered inactive by a temperature of 51° to 60° C., and can pass through the placenta into the fetal circulation. The rays may in an indirect way produce nephritis, but do not affect the red blood cells or the hemoglobin. Radium and the ultraviolet rays have no effect on the blood.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
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Immature Senile Cataract.

A. E. Bulson (*Journal of the American Medical Association*, Sept. 23, 1905) discusses the propriety of operation for the removal of immature senile cataract. He would operate in slowly progressing cases in which there are no contraindications aside from the semitransparency of the lenses, and in which vision is so often impaired as to prevent the reading of ordinary type, the patient having been fully informed as to the possibilities of secondary cataract requiring discission and mild postoperative inflammation with delayed recovery. The essentials of a successful operation removing practically all of the cortex with a minimum amount of trauma and subsequent inflammatory

reaction, and favoring such after-treatment as will limit the inflammation and promote resorption, are: (1) A large corneal section embracing not less than two-fifths of the corneal circumference; (2) an iridectomy with a fairly large coloboma extending to the ciliary border; (3) a large opening in the capsule by two incisions at right angles to each other; (4) gentle irrigation of the anterior chamber with a sterile normal salt solution after the extraction of the nucleus, if much cortex remains; (5) the early and free use of atropine, and the use of dionin, after the corneal wound has closed, to promote resorption of lens débris. The irrigation must be done with the utmost delicacy; the method he prefers is that of Lippincott, allowing a continuous stream to flow by gravity through a small, specially constructed cannula introduced just within the lips of the corneal wound, the flow being completely under the control of the operator. To anticipate the slight iritis that is likely to occur, he begins the use of atropine at the time of the first dressing, from thirty-six to forty-eight hours after the operation. Bulson believes that the final results of removal of immature senile cataracts should compare favorably with the extraction of cataract in any stage. His personal experience with twenty-five cases has been very satisfactory. The article concludes with a long series of opinions of prominent ophthalmologists obtained by correspondence, most of whom express views largely in agreement with those of the author.

Traumatic Lesions of the Eye.

F. W. Miller (*Journal of the American Medical Association,* Aug. 5, 1905) remarks on the various possible traumatic injuries of the eye and their causes and the necessary classification into recent and old cases, according to whether they are seen before or after the exudates of plastic lymph during the first few hours. The chief danger in these cases, he states, is infection, though hemorrhage is often troublesome and may be very destructive. In non-penetrating and recent cases only can an expectant attitude be assumed. Every penetrating wound must be considered as probably infected and treated as such, so far as possible. The vigorous measures used in general surgery are unfortunately not all applicable to the delicate structures of the eye. Miller speaks very highly of the subconjunctival use of cyanide of mercury according to Darier's suggestion in these cases. It should be used early and not merely as a last resort. Another remedy

which he considers exceedingly valuable is dionin, not only for its analgesic properties but also for its ability to clear up exudates and opacities. Individual treatment and conservatism are necessary as a rule. The question of enucleation arises in severe injuries, and great care and judgment should be used in its decision, especially in case of children whose orbital development may be affected. In case of burns, special effort should be made to prevent disastrous cicatrices and adhesions. In all doubtful cases consultations are desirable and prognosis must always be most guarded.

Vertigo of Aural Causation.

Clarence T. Blake (*Boston Medical and Surgical Journal,* Oct. 5, 1905) says that in view of the existing knowledge of normal conditions in the semicircular canals, vertigo of aural causation may be regarded primarily as a pressure symptom. Pressure may be exerted upon the labyrinth by forces operating from without, as the result of changes in the middle-ear transmitting apparatus. It may be produced from within by invasion of the intracapsular space, as in the case of hemorrhage into the labyrinth. The effect upon the semicircular canals of intralabyrinthine pressure thus produced will depend as to its intensity and duration upon the locality and extent of the hemorrhagic invasion. Recurrent vertigo is the result of an excessive intralabyrinthine vessel-dilatation, from suspension of vasomotor inhibition of reflex origin, either alone or coupled with a persistent intralabyrinthine pressure, of either extrinsic or intrinsic origin.

Incision of the Tympanic Membrane.

B. Connal (*Practitioner,* September, 1905) says that the three symptoms which indicate incision are: (1) Pain in the ear; (2) pyrexia; (3) bulging of the tympanic membrane. The conditions in which it is proper are: (1) Purulent middle-ear disease, (*a*) before perforation, (*b*) after perforation, to enlarge the aperture and facilitate drainage; (2) chronic adhesive catarrh of the middle ear, the incision being kept open; (3) exudative catarrh of the middle ear; (4) chronic adhesive catarrh of the middle ear with atrophied portion of the membrane; (5) chronic catarrh of the middle ear with dulness of hearing and persistent tinnitus.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Pathogenesis of Icterus.

Abramow (*Virchow's Archiv,* Bd. 181) from his extensive researches concludes that icterus is due to one of three causes: First, biliary stasis causing a dilatation and rupture of the bile capillaries, the contents of which are taken up in the lymph spaces; secondly, a venous stasis caused by the pressure of tumors, etc., and the breaking down of the liver tissues, including the bile capillaries. The third cause is a functional disturbance of the liver cells with an excessive production of bile and an impeded discharge of it into the capillaries, allowing a resorption into the blood.

Rhinoscleroma and its Treatment.

At a recent meeting of the Vienna Society for Internal Medicine, H. Von Schratter (*Lancet,* Sept. 23, 1905) exhibited several maps showing the countries of Central Europe where rhinoscleroma prevails. One focus of infection is situated in the Polish provinces, with branches going off to Prussia and Moravia, and another is in the Russian frontier districts. Up to the present time about 700 cases have been recorded. The disease is infectious, and consists in a growth of granulating tissues in the larger respiratory canals (nose, pharynx, larynx, and trachea, down to the bronchi of the second order). It has no tendency to ulcerate, but it generally cicatrizes, and might obliterate the lumen of canals. The disease is due to a microorganism similar to the bacillus of Friedlander. As several persons are known to have acquired the disease without leaving Vienna, it must be presumed that it also exists in that city.

In former times such cases were often mistaken for carcinoma or acne rosacea, especially if the localization was in the alæ nasi. Several patients lived for fifteen or twenty years, and died of other diseases. Dr. Freund then showed a man with these changes in the nose. Breathing through the nose was only possible with very great difficulty. The patient was treated with twenty-three gentle applications of the *x*-rays, each lasting six minutes. The result was very satisfactory. The granulating tissue disappeared from the mucosa nasi, the infiltration of

the nose and pharynx softened, and the nares became pervious for breathing. Dr. Kahler showed another patient whom he had treated with radium bromide. In this case there were nodules of graulating rhinoscleroma tissue on the upper lip and nose. After seven applications of 60 milligrammes of the salt, each lasting twenty minutes, several nodules disappeared without any marked change in the surrounding healthy skin. As the treatment was very expensive and troublesome, the patient not being able to stay in Vienna, she was referred to the *x*-ray department, where recovery was complete after four sittings.

GYNECOLOGY AND OBSTETRICS.

Phthisis and Pregnancy.

O. Burkhardt (*Deut. med. Woch.*, June 15, 1905) gives the details of the histories of a number of cases, and reaches the following conclusions: (1) Pregnancy does not exercise, *co ipso*, an unfavorable influence on the course of a tuberculosis of the lungs; cases do well at times in high altitudes. (2) Cases of progressive phthisis can become stationary during the course of a pregnancy, and the prognosis is then favorable. (3) Abortion does not benefit the lung condition; on the other hand it might do much harm. (4) Artificial abortion must therefore be limited as far as possible, and the indications which the author feels inclined to give for it are (*a*) the severest degree of phthisis, and (*b*) when hyperemesis gravidarum exists. (5) At the birth emotional excitement and bleeding must be reduced to the lowest measure possible (at times artificial delivery, care for satisfactory involution of the uterus, chloroform); suckling must be forbidden. (6) The treatment of the phthisis in high altitudes must be continued for from four to six months after the delivery, even in mild cases with favorable prognosis, in order to avoid late disturbances.

The Treatment of Eclampsia.

John W. Byers (*Lancet*, Sept. 9, 1905) says that if the attack cannot be warded off the following is the proper procedure:

Treat the convulsions with morphine used subcutaneously. Keep the patient on her side, purge freely, use saline infusion, allow no liquids. In a word, as Gooch advised long ago, "take care of the convulsions and let the uterus take care of itself."

Make an effort to eliminate the poison by purgation, hot packs, and by saline infusion.

If labor has not set in treat the convulsions, but do not induce premature action of the uterus. If labor has begun and the patient is in the second stage and the os dilated, give chloroform and deliver by forceps if possible, or by turning. If, however, morphine and purgation with saline injections have been tried and the patient is not improving, dilate the cervix and deliver.

For the convulsions after delivery use morphine purgatives and saline infusion.

In the prophylaxis of eclampsia rest, milk diet, warm baths, and purgatives are the best methods.

A Case of Combined Extra-uterine and Intra-uterine Pregnancy.

H. T. Miller's (*Medical Record,* Oct. 7, 1905) patient was a woman of forty who had had two children, now aged six and 14 years respectively. In the fall of 1904 symptoms developed which indicated an extra-uterine pregnancy, and when she came under the author's care in May, 1905, this diagnosis was made. On opening the abdomen a cyst-like tumor having a pedicle containing the right Fallopian tube was removed. The cavity of the sac was distended with dark-colored blood and contained the remnants of a placenta and degenerated fetus. The size of the uterus gave rise to the suspicion of an intra-uterine pregnancy, which was verified on the second day after the operation by the spontaneous expulsion of a perfectly formed four months' fetus. Recovery was uneventful.

Albuminuria and the Induction of Labor.

H. Veit (*British Gynecological Journal,* August, 1905) holds that neither albuminuria in itself nor the kidneys of pregnancy constitutes an indication for the induction of premature labor, though the first signs of the transition into nephritis do. Ascites, hypertrophy of the left ventricle, and still more albuminuric changes in the retina, demand the induction of labor. If the pregnant woman already has nephritis, Veit does not induce labor until there is some further disturbance of equilibrium in the patient's condition, such, for instance, as the onset of dyspnea or of irregularity in the pulse.

THE MEDICAL AGE

VOL. XXIII. DETROIT, NOVEMBER 25, 1905. No. 22.

ORIGINAL CONTRIBUTIONS.

A FURTHER REPORT ON THE SURGICAL TREATMENT OF THE ENLARGED PROSTATE GLAND.*

BY OLIVER C. SMITH, M.D., HARTFORD, CONN.

On the 15th of October, 1902, I read before the Hartford County Medical Association a paper on "The Treatment of Prostatic Hypertrophy." In that paper I discussed at some length the etiology and pathology of diseases of the prostate, and also the history of its study and treatment. After a consideration of the palliative lines of treatment, including manipulation and medicinal measures, I gave a detailed account of the various surgical procedures which have been used and are now in vogue for the relief of this condition.

I reported at that time nine operations upon the prostate gland, which had been performed in this State during the six months previous to that date. Of these, seven were perineal prostatectomies, or enucleations, one a suprapubic prostatectomy, and one a prostatotomy by the Bottini method. During the eighteen months which have elapsed since reading this paper the interest in the subject has increased throughout the entire country, more so here than abroad, unless we except Paris. The literature on the subject has grown immensely, the technique of the operation has been improved upon by several, and the mortality following the operation is steadily being reduced. I took the ground in the paper referred to that the operation of choice in a given case must depend entirely upon the local and general conditions, of which we find a decided variety.

First, there is that class of cases in which it is possible safely

*Read before the Connecticut Medical Society.

and comfortably to catheterize the bladder and keep the urine free from decomposition and pus, and in which some contraindication to surgical interference exists. This class of cases are best treated by the regular and aseptic use of the catheter, accompanied by irrigation and the internal administration of remedies which prevent urinary decomposition.

Another class of cases include those in which the obstructing prostate is becoming more and more troublesome, the catheter being used with increasing difficulty, and in which there exists no marked contraindication to surgical interference. These cases demand an operation. The choice of that operation depends upon the size and shape and situation of the obstructing gland. If it is pedunculated and intravesical, the suprapubic operation should be given the preference. If the prostate is large and bulging down against the anterior rectal wall, or if there is an enlarged third lobe or prostatic bar which can be plainly made out by rectal examination, the perineal route should be selected.

In another class of cases in which the obstruction is incomplete, and the cystitis not sufficiently severe to demand immediate drainage, and in which contraindications to general anesthesia exist, the galvanocaustic prostatotomy of Bottini, Freudenberg, and Young may be employed.

In another important class of cases with marked septic infection from purulent cystitis, or in which there has been rupture of the urethra with extravasation of urine and pus into the periurethral and perivesical tissues, where the patient's physical condition will not warrant a formidable operation, and where immediate and thorough bladder drainage is imperative, a rapid perineal incision with external urethrotomy and stretching of the vesical neck, followed by the introduction of a double drainage-tube, all of which can usually be done in a few minutes and under local anesthesia, is the proper expedient.

There is a growing tendency among surgeons who are doing most in this line to favor the perineal route. During the past six months I have had the opportunity of discussing the subject with several of the men who have had the largest experience in this country and in France. I find that several among them, who but a few years ago were advocating the suprapubic route, or the Bottini operation, are now doing the majority of their prostatectomies through the perineum. It is admitted by all that perineal drainage is more satisfactory than that obtained through the suprapubic incision. The bladder is tapped at the base, and not at the roof. There is much less danger of infec-

tion of adjoining tissues from the perineal wound than from the suprapubic, and there is less hemorrhage and less shock.

During the past two years several important additions to the literature of the perineal operation have been made: one by Dr. Charles H. Chetwood, who read a paper in 1902 before the American Association of Genito-urinary Surgeons on the method of perineal prostatectomy, in which he advocates the use of the galvanocautery incision through the perineal route, establishing perineal drainage at the same time. He reported seven cases of prostatic hypertrophy having been operated upon at that time by this method with no fatality. If the galvanocautery is to be used, this method appeals to me more strongly than the original method of Bottini and Freudenberg. It is done in the light and not in the dark. The extent of the incision is under control, and of great importance is the drainage which follows.

Dr. Ramon Guiteras has devised and advocates two methods: one which he terms a perineoprevesical, and another a vesicorectal. The former consists in making an incision suprapubically into the prevesical space, without going into the bladder. External perineal urethrotomy is next performed, and a pair of sharp-pointed scissors passed into the perineal wound. The tissues over the apex of the prostatic urethra are then incised. Enucleation with the right index finger-tip is now performed, while counter-pressure is made over the prostate by the fingers in the prevesical space. The enucleation is followed by perineal drainage. Dr. Guiteras considers this the safest method of performing prostatectomy. His other method consists of a suprapubic cystotomy, the insertion of two fingers of the left hand into the rectum, and the index finger of the right hand into the bladder. When the prostate is palpated bimanually, a pair of sharp-pointed, curved scissors are passed into the bladder, the points thrust into the most prominent portion of the prostate, just behind the internal meatus. The blades are opened, tearing the tissues over the gland. The finger-tip is now inserted into the opening and carried between gland and capsule, while counter-pressure is made by two fingers in the rectum. Perineal incision follows this to secure drainage.

In his summary Dr. Guiteras states that the statistics of the results of prostatic operations demonstrate that the successful cases belong most frequently to the class having a small amount of residual urine, and a moderate prostatic enlargement. An early diagnosis is, therefore, of paramount importance, and the choice of the operation will be determined by the resisting power

of the patient, the size and shape of the prostate, with special reference to the seat and extent of the hypertrophy, as well as the condition of the kidneys and bladder.

A most valuable contribution to the technique of perineal prostatectomy appeared October 24, 1903, in the *Journal of the American Medical Association,* by Dr. Hugh H. Young, of Baltimore. Two years ago Dr. Young advocated, for the majority of cases, the Bottini method. He now reserves this operation for such cases as will not permit of a cutting operation, or for cases which seem to him too feeble to permit of any other surgical procedure. His present method of performing perineal prostatectomy is, to my mind, the most scientific yet devised.

The essential features of Dr. Young's operation are the more thorough dissection of the perineal tissues, either through a median or an inverted V-shaped incision, this depending upon the thickness of the perineal muscle and the amount of perirectal fat; the division of the central tendon in the perineum, which allows the sphincter and levator ani to retract, and the rectum to be drawn forward by the rectourethralis muscle.

Proust brought forward the fact that unless this muscle (rectourethralis) is divided the rectum is more likely to be torn. The membranous urethra having been exposed, the broad retractor is inserted at the base of the wound. He now opens the membranous urethra on a staff which had been previously inserted, and the edges of the urethra are caught up by silk sutures. A good-sized sound is then passed through the incision into the prostatic urethra and bladder.

Dr. Young's specially devised prostatic tractor is then passed into the bladder; the blades are rotated one hundred and eighty degrees, and then fixed by a thumb-screw. Lateral retractors are now introduced into the wound, making a fine exposure of the posterior surface of the prostate. The next step, which is unique with Dr. Young, is to incise the posterior surface of the prostate on either side of the median line for the entire length of the surface. This incision is about one centimeter deep, converging slightly toward the upper end, being 1.5 centimeters apart in front and 1.8 centimeters behind. Dr. Young claims that by leaving this bridge of tissue the ejaculatory ducts may be preserved in the majority of cases. The lateral lobes are now enucleated one at a time through this incision. The enucleation to the outer side of the lobes is performed before the inner, the latter being the more delicate procedure, as there is danger of

tearing the urethra. This is best done with a curved, blunt dissector.

Dr. Young has also devised a pair of forceps for extracting the lobes after enucleation. The median lobe is now enucleated through one of the lateral spaces with the aid of the prostatic retractor, which is rotated ninety degrees, so that one blade makes pressure against the middle lobe. When it comes into sight it is pushed with one index finger into one of the intracapsular spaces. At this point the tractor, which has been held by the operator up to now, is taken by an assistant, who continues to make traction against the lobe, the operator using the index finger of one hand to press laterally, and with the other he uses the extraction forceps to complete the removal.

In a recent conversation with Dr. Young, he tells me that of the younger patients upon whom he operated, those between fifty and sixty, he believes that fifty per cent will retain their sexual power. In the method which I have advocated in my papers above referred to I recommend the prostatic tractor of Dr. Parker Sims, which consists of an inflated rubber ball on the end of a rubber shank, which is introduced by a steel staff and inflated or filled with water after the staff is withdrawn.

In comparing the merits of the two instruments which are the best thus far devised, I should say that the instrument of Dr. Sims has the advantage of acting as a tampon for controlling hemorrhage, while that of Dr. Young has the advantage of affording more definite traction in the direction desired. One should be familiar with the use of both. As to the after-treatment in these cases, we now employ at the Hartford Hospital a double drainage-tube consisting of one large and one small tube sewed together. The larger is one centimeter in diameter, and the smaller a medium-sized soft catheter. It is fastened into the wound by a suture passing through the larger drainage-tube, and fastened into the lower of the silkworm-sutures at the upper part of the wound. Through these tubes continuous or intermittent irrigation can be carried on. If there is marked tendency to oozing, continuous irrigation with hot saline solution is desirable, as it prevents clots. Later other medication can be employed locally in connection with the irrigation. Silver salts are frequently valuable where there has been marked purulent cystitis. The length of time for continuing the drainage depends upon the condition of the bladder. If the urine becomes clear, the tubes can be removed on the fourth or fifth day. It is not advisable to leave them in longer than a week, after which the

bladder is irrigated through the perineal wound for a few days longer. The penile urethra is also irrigated during convalescence, and a sound passed to insure against cicatricial contraction. The patient is allowed to sit up within a day or so after the removal of the drainage-tubes. The results which have been obtained by those who have performed the perineal operation in and about Hartford are decidedly gratifying.

I have operated upon fifteen cases, and as many more have been performed by other surgeons in Hartford. Unless there exists some marked contraindication to surgical intervention, a very favorable prognosis can be made in the majority of these cases. Nearly all of our cases have been in men of advanced years, with degenerate arteries, with enfeebled kidneys, and some of them with serious heart lesions, and at least one-third of the number have suffered from general sepsis before and at the time of the operation. Of this series of thirty cases, not more than three can be said to have died as a result of the operation. My third case, a very feeble man, aged eighty, died of acute pneumonia, following exposure some days after the drainage-tube had been withdrawn. My only death as a direct result of the operation was in an elderly man suffering from chronic interstitial nephritis, with marked arteriosclerosis plus a valvular heart lesion. Catheterization had become difficult; he had been an invalid for several weeks, and was ready to face any danger rather than to live as he was. He took the anesthetic poorly, and bled from every vascular twig by reason of his hardened arteries. The operation had to be abandoned on account of his condition, and he died shortly after from shock and hemorrhage. It is doubtful if he could have withstood any surgical operation, and with so markedly degenerate arteries. In another case I should content myself with an external urethrotomy, stretching the vesical neck, and draining the bladder. If this much was well borne an attempt could be made to enucleate the prostate later.

Another fatal case, which I think should not be attributed to the operation, was that of a man in the seventies, who apparently possessed favorable conditions for the operation. He entered St. Francis Hospital, and on the day before the operation, following a watery evacuation of the bowels, he was taken with a severe chill, followed by high temperature. We debated as to the advisability of operating, but believing that the chill and temperature were due to systemic infection of bladder origin, we proceeded to operate. No difficulty or accident attended the

operation, but his enfeebled condition of the day before continued. His bowels continued loose, and the abdomen became distended, the patient entering into a typhoid state five days after the operation. But we cannot expect to operate upon this class of patients without some deaths occurring and without some unpleasant symptoms remaining in those who survive.

The complications and sequelæ that may follow this operation are incontinence of urine, rectourethral fistula, and a continuation of purulent cystitis. Incontinence is usually the result of injury to the vesical neck, which will be at times difficult to avoid, but which with improved technique and increased experience will become less frequent. The same may be said for the rectourethral fistula. When operating with the Parker Sims retractor, which is held by an assistant, I invariably keep the left index finger in the rectum, while the right enucleates the several lobes of the prostate. In this way one can pretty surely guard against rectal injury. With the technique of Dr. Young, which I have described, this is not possible, as the operator holds the retractor with one hand and enucleates with the other, but, as noted, the severance of the rectourethralis muscle, which allows the rectum to drop away from the prostate, protects the rectal wall without the finger in the rectum. When this accident does occur one should attempt to repair it at once, for if the condition persists it is not only exceedingly uncomfortable for the patient, but may lead to early development of infection and general sepsis.

The chronic cystitis which sometimes continues after the obstructing prostate is removed cannot in some cases be overcome. The bladder mucosa has become so thoroughly diseased that pus will be secreted despite our best efforts. We believe that we have proven by our work that the operation of enucleating the prostate gland has come to stay.

It behooves us to use careful judgment and discrimination in selecting the method of operation; to make very thorough examinations of our patients prior to operating; to know as early as possible the condition of the kidneys, their urine, the capacity and condition of their bladders; the cystoscope should be brought into play; and when possible the patient should have a few days of preliminary treatment, of bladder cleansing, of urine antisepticizing, of general tonics before an operation. The choice of anesthetics must be carefully considered, for we sometimes deal with badly diseased kidneys, and sometimes with patients suffering from chronic bronchitis and asthma, so that ether and

chloroform may both be contraindicated. In such cases local anesthesia should be employed, using the method of Dr. Morton, of California.

In conclusion, I would like to emphasize the importance of the perineal drainage in those cases where any of the various contraindications to further operation may exist, as a means of tiding over the patient, and of prolonging life in the hope that something further and more radical can be done at a later time. It seems to me this subject is full of broad possibilities, and is certainly deserving of the most careful and painstaking study and observation. We certainly may felicitate ourselves that the greatest advances in this important line of surgery, destined to prolong life and relieve suffering of thousands of elderly men, is largely due to the ingenuity and the indefatigable efforts of our own American surgeons.

ADDENDUM.

Since the foregoing paper was presented at New Haven, last May, the following six cases have been operated upon by the author without any fatalities. The average age of these patients was seventy-three years:

Case 16.—Y. C., Hartford, aged seventy-five. Referred by Dr. E. W. Kellogg. Suffered from bladder distention and diminishing stream for past four years. Water passes now only in drops. Attempts at self-catheterization futile. Prostate much enlarged. Operation June 22, at Bruce Private Hospital, Hartford. Perineal incision. Local cocaine followed by general ether anesthesia. Three lobes enucleated. Drainage-tube removed on fourth day. Patient sat up and passed water per urethram on eighth day. Left hospital end of fourth week with complete bladder control. Perineal wound healed.

Case 17.—M. K., Norfolk, aged sixty-four. Recurrent case, having been operated upon by the author two and one-half years ago. Operation, Litchfield County Hospital, July 22. Perineal incision. Chloroform and ether anesthesia. One lobe of prostate found encroaching upon urethra. Operation uneventful. Drainage-tube removed at end of week. Patient made slow progress, as marked atony of bladder existed from attacks of severe distention. Patient left hospital at end of second month with ability to empty bladder, but with some incontinence.

Case 18.—G. G., Winsted, aged seventy-three. Referred by Dr. William S. Hurlburt. Patient confined to bed. Feeble health. Purulent cystitis, suffering severe pain. Progressive prostatic

symptoms for past year. No urine passed without catheter. Operation, Winsted Hospital, July 27. Inverted V perineal incision. Ether anesthesia. A greater portion of three lobes removed. Patient made slow but steady progress toward recovery. Discharged from hospital at end of fifth week, with perfect bladder control. Patient up and about. General condition much improved.

Case 19.—R. E. M., Kensington, aged seventy-two. Prostatic symptoms of six months' duration. Residual urine three ounces. Prostate bilaterally enlarged. Moderate arteriosclerosis. Operation, Bruce Private Hospital, August 15. Inverted V perineal incision. Ether anesthesia. Three lobes enucleated. Drainage-tube removed on fourth day. Patient sat up at end of week. Left hospital at end of fourth week. Complete bladder control.

Case 20.—A. W. C., New Hartford, aged seventy-seven. Referred by Drs. J. and Paul Swett. Seven years ago submitted to castration for enlarged prostate. Improvement resulted and continued from two to three years. Since that time progressive prostatic symptoms. During past year has voided urine by catheter only. Three months ago was unable to empty bladder, since which time the Drs. Swett have been obliged to catheterize several times during each twenty-four hours. Patient suffers from chronic rheumatism and arteriosclerosis. Prostate much enlarged. Operation, Hartford Hospital, August 15. Inverted V perineal incision. Gas and ether anesthesia. Very large median lobe enucleated. Operation remarkably well borne. Tube removed on third day. Patient sat up on ninth day, and left hospital at the end of sixth week. Can empty bladder at will. Slight incontinence when bladder is full.

Case 21.—P. L., Hartford, aged seventy-three. Referred by Dr. Emil Reinert. Prostatic symptoms of one year's duration. Urination has become more and more difficult, until the past month, since which time catheter has been used continuously. Catheterization accompanied now by pain and hemorrhage. Patient suffers from marked arteriosclerosis. Fine râles over base of both lungs posteriorly. Prostate much enlarged bilaterally. Operation September 20, at Hartford Hospital. Perineal incision. Chloroform anesthesia. Prostate removed piecemeal, but completely. Slight shock. Drainage-tube removed on fourth day. Patient sat up at end of week. Present writing (October 1) wound not entirely healed, although some urine is passed per urethram.

THE CONTROL OF SYPHILIS.

BY M. MC CRORY, M.D., PHILADELPHIA, PA.

As to the duration of mercurial treatment Kaposi says: "As a general rule I would advise that the first or primary treatment be carefully and long enough conducted, repeating this as often as the syphilitic phenomena exhibit themselves in the skin, mucous membranes, lymphatics, etc., but ceasing immediately after they have disappeared, as all such treatment for syphilis is both superfluous and injurious; in a perfectly healthy subject with nothing but the syphilitic virus to combat, a short, rational treatment can do little harm. I have no objections to raise against an opportune repetition of this treatment within the year, if the phenomena should justify such a course. Concerning the form and preparation of the drug itself, I have always been in favor of inunction, and am still convinced of its efficacy, but where this fails, which I have never found it to do, subcutaneous injections appear to be equally efficacious and enduring, and with this object preparations of sublimate itself, mercurial peptones, calomel, and oleum cinereum have been provided, but the latter two preparations being insoluble, dangerous symptoms have frequently manifested themselves."

The value of mercurial inunction depends on the number of the follicles in the skin, and no greater effect is obtained by rubbing in a larger quantity of the ointment, unless over a greater extent of skin surface, as Ehrmann has proved. Mercurial injections in exact dosage have the advantage of not depending on the patient for being carried out; the disadvantages in using soluble mercurial salts for injection are that they pass through the body rapidly, and that they produce toxic effects more easily. The remains of the syphilitic poison are still present, and it may multiply so as to give rise to relapses. With inunction as well as with the injection of insoluble preparations a deposit of mercury is left which is gradually absorbed. According to Lichtenstein, relapses are more frequent after the injection of partially soluble preparations, such as the salicylate of mercury, than after the more insoluble, such as the oleum cinereum. With the latter the injection is made weekly, whereas with soluble preparations it must be made daily, and thus one advantage over inunction is lost.

Two years is the limit of duration of treatment, but if after two years a relapse occurs or marriage be thought of, an extra

year must be added. Neumann recommends "asparagin mercury," used as a subcutaneous injection once a day, the dose being one cubic centimeter. It is prepared as follows: 10 grains of asparagin is dissolved in warm water, and oxide of mercury added until no more dissolves. The solution is filtered when cold, and the amount of mercury is then estimated. It is then diluted to the required strength of one to two per cent. The especial advantage of this drug is that it gets quickly into the circulation, that it rapidly influences the syphilitic processes, and that it is eliminated quickly. The profession has accomplished wonders in preserving the wife from contamination, but as Pinard states, it has paid too little attention to preserving the offspring, for the birth of a healthy child is not a decisive proof that the father has been cured of syphilis. Every syphilitic wanting to have healthy children should take a "heredity course" of mercurial treatment supplementary to his own course. After the usual careful course of antisyphilitic treatment, when the patient is free from all trace of syphilis and wishes to procreate healthy children, Pinard's practice for twenty-six years has been to institute then a six-months' course of mercuric iodide and potassium iodide before he gives the patient permission to procreate, ordering the same treatment for the wife during the entire period of gestation. He orders also a repetition of the same treatment before the procreation of each child, and he has never had a failure. He appeals to all physicians to protect the race from the ravages of syphilis. The present prophylaxis protects the man himself, it protects the wife, but it does not protect the offspring in all cases.

Hallopeau regards general paralysis in a syphilitic as an affection induced secondarily in a predisposed subject by specific neoplasms in the meninges or in the brain substance, developing independently later. He suggests the name "deuteropathy" for such an affection, as this implies its affiliation with the mother disease and the independence of the secondary inflammation, which has its own evolution and may in time dominate the situation. General paralysis he accepts as a deuteropathy usually induced by syphilis, but liable also to develop under the influence of other causes. Energetic treatment of syphilis may, therefore, ward off the specific lesions, and thus the general paralysis. If the premonitory symptoms of the condition can be detected, with specific treatment on their appearance, the development of the neoplasms may be aborted and the deuteropathy averted.

Next to criminality, syphilis heads the list as a cause of abor-

tion and miscarriage, and hence from the standpoint of the pediatrist the number of cases of syphilis in infancy and childhood will form but a small percentage of the total number of cases seen. The mortality in syphilitic children, however, is as great as, if not greater than, in any other disease, as pointed out by Tuley. The method of conveyance of syphilis to offspring has been much discussed, especially as to the relative responsibility of each parent and as to how the prognosis is influenced by paternal, maternal, or mixed source of infection. Infection may be transmitted by the father alone, through the medium of the spermatozoa; from the mother, the father remaining healthy; or it may be a mixed infection from both parents. With Carpenter, we believe that Colles's law can be explained by the existence of a syphilitic toxin transmitted from the syphilitic fetus through the placental circulation, the mother being rendered immune against infection by the mucous patches in the child's mouth, while they are capable of infecting a healthy wet-nurse. Against this theory of acquired immunity without active syphilis is the statement of Morrow that well authenticated cases are on record in which women who have given birth to syphilitic children have afterward acquired the disease. On the virulence of the disease in either or both parents at the time of conception will depend the severity of infection of the child; for instance, during a short intermission in treatment an infected parent may beget a syphilitic child, and during treatment a healthy one. Fournier has reported a case in which a syphilitic child was born twenty years after the primary lesion in the parent, healthy children having been born in the interim. Syphilis, unfortunately, does not affect a man's procreative powers or his sexual desire, nor does syphilis in the mother interfere with her abilities to conceive.

In the treatment of syphilis at Aix-la-Chapelle, Levien says the details of the "cure" are as follows: "After rising in the morning between 7 and 8 o'clock, the patient takes two or three glasses of sulphur water, each of 200 grammes, with the addition of salts, which are prepared in the factory of the Aix-la-Chapelle natural spring products. Patients who are fairly strong then immediately take their bath, while weaker patients, and more especially those suffering from affections of the central nervous system, take a light breakfast and wait for their bath until two hours later. The temperature of the bath averages 95° to 98° F.; but those with nervous diseases or alterations of the arteries are not allowed to take baths warmer than 92° to 94° F. The

duration of the bath varies from five to twenty minutes, according to the strength of the patient. In suitable cases which can endure a hardening process, cooling douches or irrigations are used in addition to the baths. After the bath the patient rests for twenty or thirty minutes, care being taken that he does not perspire too freely in the interim. Then after the patient has had his breakfast (I am referring now to the more robust cases) he is inuncted. The process is carried out as follows: With the naked hand an experienced masseur rubs the requisite quantity of 33-per-cent blue ointment evenly on to the skin for a period of twenty minutes (hairy patients are previously shaved to avoid folliculitis). The following parts of the body are subjected in turns to inunction: On the first day the legs are rubbed; on the second, both thighs; on the third, the back; on the fourth, the abdomen and flanks; and on the fifth day, the arms. These inunctions are repeated again in that order until the requisite number have been attained. Of course the inunctions may be so intensified that a greater extent of the surface of the body is daily smeared with a somewhat larger quantity of the ointment. The ointment thus rubbed in is not removed with the towel after the bath on the following day, and thus every part of the body is at once exposed to the action of the unguentum cinereum until each section is again prepared for a fresh inunction. This preparation is effected by means of scrubbing with soap and water at a high temperature. The ordinary temperature of the water has no effect upon the ointment, which liquefies only at 113° F. In the rubbing we are careful to avoid the axilla and the region between the scrotum and the thigh, because eczema might easily be set up in these situations. It is also essential to avoid pressure on superficial bones, such as the shins and ribs. I generally order a glass of the thermal water to be taken both before the midday meal and before supper, as I find this has a stimulating effect on the appetite. During the cure the teeth must be cleansed of morsels of food after each meal by means of a soft tooth-brush, with a tooth-paste of salol and chlorate of potassium. The mouth also must be rinsed with a solution of aluminum aceticotartaricum every half-hour."

Examination of the cerebrospinal fluid of syphilitics showed it always normal when the manifestations of the disease were restricted to the skin, bones, or mucosæ, with the exception of cases of perforation of the soft palate. When there were ocular lesions, the cerebrospinal fluid almost always showed evidence of a strong cytolytic reaction. The reaction is more intense the

more recent the lesions, and it subsides as the lesion retrogresses. In old syphilitics without any apparent manifestations of the disease the cerebrospinal fluid was always normal; when the nervous system was affected, the fluid always presented indications of a reaction. Any cytolytic reaction, therefore, in the cerebrospinal fluid in a syphilitic, isolated or accompanied by other manifestations of syphilis, is a sign that the nerves are affected, if the reaction cannot be otherwise explained. The discovery of such a reaction should be a warning to institute specific treatment at once without waiting for further symptoms. The reaction in the cerebrospinal fluid should be accepted as a symptom fully as characteristic as a cutaneous or visceral lesion, requiring the same treatment. Ravaut pleads that lumbar puncture should be practiced as a routine measure in syphilitics, for he claims by the information thus obtained the nervous complications, which are the more dangerous as they develop in such an insidious, latent way, may be aborted or warded by timely, energetic treatment.

Hyde's conclusions in answer to the question, To what extent are the longevity prospects of a man or woman affected by the accidents of the syphilis? are as follows: Syphilis may destroy life or it may disfigure or multilate the human body to a formidable extent. The disease should be counted among the dangerous scourges of the human family. Neither the physician nor the patient can afford to neglect skilful, energetic, and prolonged treatment, with the view of setting aside the possibilities of future danger. In the case of inherited syphilis the fatality, working destruction alike in ovum, fetus, and infant, varies between 80 and 90 per cent of the infected. The percentage of fatality in acquired syphilis is probably less than two, and results less often from the active invasion of the disease than from an entailed loss of resistance, by reason of which common agencies of disease produce serious effects, especially in the nervous system. The damage wrought by syphilis is not to be measured solely by its lethal issues; thus the lowering of the standard of health brought by the inroads of the malady, and the moral result of the acquisition of the disease popularly described as loathsome, may jeopardize the best play of the body functions, pave the way for the inroads of other toxins, and possibly lay the foundation for mental degeneration, alienation, and even suicide. The longevity prospects are unquestionably better for women than for men, by reason of relative placidity of existence of the former.

As to general paralysis and syphilis, Raymond emphasizes the

fact that heredity plays a very important rôle. General paralysis requires a soil prepared by a condition of lesser resistance, inherited or acquired, on the part of the cortex. Joffroy denied any connection between general paralysis and syphilis, affirming that they are two distinct affections both in their origin and in their nature, syphilis being merely a good manure to render the soil fertile, and does not contain the seed. The geographical distribution of syphilis and general paralysis differs; thus in certain countries in which syphilis is prevalent and severe, such as Japan, Algiers, Bosnia, Tunis, Abyssinia, Indo-China, Korea, and the Malabar coast, general paralysis is exceptional among the natives, and is in some entirely unknown. When tertiary lesions are observed in a general paralytic, mercurial treatment will cure these lesions, although it does not affect the paralysis. On the other hand, syphilitic visceral lesions are exceptional in general paralytics. Joffroy regards mercurial treatment as no protection against general paralysis, and as dangerous after it is established. Marchand's recent work presented evidence to show that the brains of general paralytics frequently exhibit unmistakable syphilitic lesions. They have to be sought with care in series of sections.

Hayem reviews four typical cases of tertiary syphilitic manifestations located in the stomach. One type simulates an ulcer, as there is ulceration with a hematemesis. Another type suggests benign stenosis, without a tumor. In the third type there is a tumor in or near the pylorus, suggesting the possibility of a cancer of the pylorus. The fourth type is the deceptive simulation of cancerous stenosis. The chemistry of the stomach, however, is liable to be that of an ordinary chronic gastritis. In the ulcerative form the analysis may suggest the finding of the cancer. One of the four patients was sixty years old and presented the aspect of a cancer subject. At the time no one thought of inquiring for syphilis in this case, but a history of a chancre forty years before was learned after operation; if it had been suspected before, specific treatment would have been tentatively instituted, as there was no urgent haste, and the syphiloma might have subsided under it. In the absence of the history of syphilis Hayem would refrain from mercurial treatment in such a case as all unnecessary medication may do harm, but the possibility of syphilis in the presence of a serious stomach affection of obscure origin must be remembered. Possibly mercurial treatment may do wonders, and may avert the necessity for operating.

Syphilis may have an active influence on the development of

a cancer of the mouth, and this influence is exerted by the preliminary leucoplasia providing a soil for the cancer, by the cancer becoming installed in local lesions such as scars on the gums, etc., and by the general lowering of the resisting powers which the syphilitic infection induces. In his experience at Toulouse, Etcheverry has had occasion to observe thirteen cases of cancer following leucoplasia, and a still larger number in which cancer developed in local syphilitic lesions in the mouth. He cites also a number of cases reported by others. In a third group of fifteen cases the cancer developed in the mouth of syphilitics without appreciable preceding local lesions. Under energetic mercurial treatment the cancer continues its inexorable course, while the syphilitic lesion, with which it is associated, shows the effect of the specific treatment. Potassium iodide seems to aggravate epitheliomata, but mercury will induce a transient improvement.

Risso and Cippollina report still more favorable results in a later series of cases, using antisyphilitic serum. In six cases of secondary, two of tertiary, and five of parasyphilitic manifestations of syphilis the lesions were more severe than any in the first series, but the success of the serum treatment was even more striking. The serum is obtained by repeated injection of dogs with blood from syphilitics in the midst of the secondary phase, small amounts of the blood-corpuscles from the same animals being added to the serum on the assumption that the immunizing power is a property that is inherent in the histologic elements of the blood as well as in the serum. Two of the first series of patients present evidences of partial recurrence of secondary lesions, but the others have been free from any manifestations to date, with the exception of one patient, who has been lost to observation.

In the legal control of syphilis Bulkley asks if it is not strange that no systematic attempt has been made by the health authorities to obtain the proper control of this disease which is inflicting so great a damage on the community. The reason is found in the fact that syphilis is so thoroughly associated in the mind of the profession and of the laity with venereal transgressions that there is a moral repulsion against any measures looking toward its repression. So long as syphilis is regarded solely as a venereal disease it will be extremely difficult to obtain adequate legislation for its control. But when the medical profession and the laity are thoroughly awake to realize the relative frequency and danger of its innocent transmission, there will be little difficulty in solving the problem. We must remember that

the matter of legal protection against syphilis has nothing to do with the subject of prostitution, and the fact that syphilis is frequently acquired through prostitutes should be no bar to the community protecting itself against the disease. The question is not in regard to "legalizing prostitution," nor of inspecting, licensing, or legalizing the "social evil," nor of protecting those engaged in it. It is to be approached from a higher ground, and the effort should be made to have some restriction placed on a disease which is dangerous and communicable, and which continually attacks many in a wholly innocent and unexpected manner. That the spread of syphilis can be checked, to a greater or less degree, by the proper measures is evident both from experience and science. In many epidemics of syphilis which have occurred in innocents in the time past, the disease has been checked when its real nature was recognized and proper precautions instituted. Scientifically, we know that the poison cannot develop *de novo*, but that it is always communicated from one person to another; after a certain period it ceases to be virulently contagious. If now no new syphilis is introduced into a community, and if means can be devised whereby those already diseased do not expose others until that safe period is passed, the malady will disappear. To endeavor to accomplish this would be the duty of the health boards, when once the disease was placed under their control. There should be no difference of opinion about the desirability of placing syphilis under some restraint. Bulkley repeats the suggestion which he made elsewhere and on another occasion: "The first step, I believe, is to recognize and place syphilis among other contagious diseases, under the control of the health boards, and as public sentiment is aroused to the advantage of this proceeding it will be easier to advance step by step in restraint of the disease. If it were placed on the same footing as smallpox, scarlatina, and diphtheria, and if it were made a misdemeanor to communicate syphilis wittingly, a great step would be taken toward diminishing the frequency of the disease and consequently its innocent infection."

Klotz believes that in the insoluble injections we possess one of the most effective methods of bringing the organisms infected with syphilis under the influence of mercury, a method destined to supplement rather than to exclude older methods. Up to the end of 1904 he has records of 2500 injections made on 204 patients—2112 of the salicylate, 150 of the yellow oxide, 216 of calomel, and 3 of gray oil—the age of the patients ranging from eighteen to sixty years. The number of injections varied from

one to forty-two, sometimes distributed over three and four years, the usual dose being the entire contents of a syringe measuring exactly one cubic centimeter, representing 10 centigrammes (one and a half grains) of the salt suspended in oil or liquid vaselin. The injections were given at intervals of one week, whenever symptoms of syphilis were present, up to their disappearance; then two to four injections were added at intervals of ten to fourteen days; not more than ten injections were given continuously, except when the intervals had been longer. This was followed by an intermission of several months without any treatment, so that the patients who were more or less exclusively treated by injections received four to six series of from six to eight injections up to about the end of the second year; under ordinary conditions this was considered sufficient treatment.

Ordinary cases during the first two years are scarcely available for any definite judgment of the value of a treatment, because a similar course of the disease may be observed with every method, and even occasionally without any treatment at all. In quite a number of cases other methods were freely alternated with the insoluble injections. An intermission of several weeks or months, with iodides or quinine and other tonics, will render the patient better prepared for the renewal of mercurial treatment. In 129 cases injections were made in the first two years after infection; in 15 in the third year; in 18 in the fourth and fifth years; in 22 between five and ten years; in 11 between ten and fifteen years; in 4 between twenty and thirty years; in 9 the term of infection could not be ascertained. The manifestations which were the objects of the treatment in these cases were: periostitis, 3; gummata of extensor muscles of thigh, 1; gumma of scalp, 1; of lip, 2; lip and tongue, 4; gummatous processes of nose and palate, 6; diffuse superficial ulcers of pharynx and palate, 3; tubercular syphilide, 13; gummatous ulcers of leg 6, and of other regions 4; gumma of the testicle, 2; cerebral syphilis, 4. If properly made no pain results from the injection itself, nor is there any flush around the needle puncture, nor inflammation of the skin. Patients with flat nates, flabby muscles and skin are not favorable subjects for the injections; the form of salt to use is the salicylate. Abscess formation results but rarely, only four instances occurring in the 2500 injections. The constitutional symptoms following the injections are slight and of short duration, and the patient can attend to his business regularly.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE MORTALITY AND MORBIDITY OF THE HEBREW.

That nations grow old, and in consequence thereof exhibit the general symptoms of senility, is a doctrine which often appears to be refuted by evidence of an irrefragible kind. The ease and celerity exhibited by the old Japanese nation in donning the mantle of modernity is an eloquent denial of the belief that age is synonymous with decrepitude. In fact it seems doubtful if nations as such ever grow old.

One of the most striking examples of the national vitality of an old race is furnished by some recent statistics of the Hebrew race in Europe. Stephan, of Amsterdam, has shown that in that city the mortality of the Hebrew race is less than that of any other. In Amsterdam the death-rate for Jews is only 12 per 1000, while for other people it is 17 per 1000. This improved ratio comes from the lowering of both the infantile death-rate and the senile death-rate. Nor is this entirely due to better hygienic conditions. In New York the Russian and Polish Israelites for the most part are in miserable straits, but they have a less mortality than other nations, and this arises in that city as it does in Amsterdam from lessened infantile mortality.

Another noteworthy fact is that the proportion of still-born children among the Hebrews is inferior to the rate usually prevailing among those with whom they live. For instance, in Prussia there were 32 still-born children per 1000 with the Hebrews, to 35 per 1000 with the Christians. In Amsterdam 338 Israelite mothers, giving birth to 1762 children, had only 59 still-born, or 39.4 per 1000, while the rate for the city in general is 46.9 per 1000. In matters of general morbidity the Hebrew race seems less subject to infectious disease. Amid

miserable surroundings in New York the death-rate from tuberculosis is much inferior to that of other races. In Holland it is said that the Jews easily contract diphtheria. For nervous affections the Hebrew race seems to show some predisposition. The statistics of asylums confirm the view that idiocy is more prevalent among the Jews than Gentiles. On the other hand, epilepsy, tabes, and progressive paralysis are less frequent. Stephan commenting on these facts considers the lessened mortality and morbidity of the Hebrew race to be explained by social and historical conditions. The lessened infantile mortality is in part due to the rarity of syphilis or alcoholism, but the foremost fact is the integrity of family life. Divorce is rare, and it is a notable fact that the Jewish woman is peculiarly averse to divorce. In Berlin in 100 cases of separation 15 were demanded on the plea of Gentile women to 3 on the plea of Hebrew women.

It seems indisputable that many of the characteristics of race survival might be discerned by a careful and discriminating investigation of the life of the chosen people.

EDITORIAL NOTES.

The Vitality of Tubercle Bacilli in Sputum.

That consumptives should be careful in regard to destroying their sputum in order that they may not be a menace to others is a doctrine that the medical profession has assiduously taught of late years. Just how long the bacilli remain active in the sputum has been accurately determined by D. C. Twichell, of Boston, who in a paper recently published in the *Medical News* gives the results of an elaborate series of experiments. He found that tubercle bacilli in sputum in paraffined bottles placed in a dark, moist box were alive and produced a tuberculous lesion in a guinea-pig at the end of 170 days. No tuberculous lesion was produced after 188 days. With the sputum in paraffined bottles, placed in a dark closet, a lesion resulted after 160 days, but not after 188 days. With the sputum in bottles stoppered with cotton, placed in a dark, moist box, a lesion resulted after 157 days, but not after 172 days. With the sputum in paraffined bottles, placed in the diffuse light of an ordinary room, a lesion resulted after 175 days. With the sputum in ice a lesion resulted after 102 days, but not after 153 days. With the sputum in sand, in a moist, light place, a lesion resulted after 123 days, but not after

148 days. With the sputum in bottles stoppered with cotton, in a dark closet, a lesion resulted after 100 days, but not after 141 days. With the sputum in open bottles, placed out-of-doors in the winter months, a lesion resulted after 110 days, but not after 132 days. With the sputum in a handkerchief a lesion resulted after 70 days, but not after 110 days. With the sputum in a woolen blanket a lesion resulted after 70 days, but not after 110 days. With the sputum on wood a lesion resulted after 70 days, but not after 110 days. With the sputum in paraffined bottles, in the thermostat, a lesion resulted after 33 days, but not after 100 days. With the sputum on carpet a lesion resulted after 39 days, but not after 70 days. With the sputum in sand, in a dry, light place, a lesion resulted after 30 days, but not after 70 days. With the sputum exposed to direct sun rays a lesion resulted after one hour, but not after seven hours. Dr. Twichell's experiments show conclusively that the conditions under which the bacilli remain active the longest are darkness and moisture.

Chinese Therapeutics.

A very interesting account of some ideas of therapeutics held by the Chinese is given by a writer in a foreign exchange, who points out the need of a revision of many of the theories laid down in the Chinese Materia Medica. Sulphate of iron is said to go at once to the liver and gall-bladder, and is good when the liver is inflamed: it is also good for cough, epilepsy, and hematuria. The sulphate is said to be obtained from copper pits and to be the fluid part of the copper, thus enabling it to go to the liver. The color of the best preparation should resemble the inside of the mouth of a green frog. The human placenta is listed among the medicines, and is said to cure weakness, thinness, wasting diseases, madness, and epilepsy. The placenta should be taken from a healthy primipara, washed in a running brook, then boiled, after which it may be toasted and powdered, or eaten after the boiling with rice. Powdered tiger bones are said to impart great strength to one using it a sufficient length of time. To children with fevers the urine obtained from a white horse is given. The writer relates a number of other absurdities, and shows that Western ideas of therapeutics are slow in gaining ground in the Flowery Kingdom.

ITEMS AND NOTES.

BUBONIC PLAGUE has broken out at Chinde, in Portuguese East Africa.

IT is reported that yellow fever has been virtually stamped out on the Isthmus.

THE sixth Congress of Applied Chemistry will be held in Rome in the spring of 1906.

THE medical profession of Chicago tendered a banquet to Dr. Senn on November 11, 1905.

A SCHOOL for tropical medicine has been proposed in connection with the Tulane University of Louisiana.

YELLOW FEVER has been reported in the American colony of Central America, several deaths having occurred.

SINCE January 1 there have been 60,000 cases of typhoid in New York, and 500 deaths in Greater New York alone.

IMPURE milk in towns in Illinois outside of Chicago is causing a flood of complaints in the office of the Pure Food Commission.

ACCORDING to the monthly *Homeopathic Review* of September 1 there are less than three hundred homeopathic practitioners in the United Kingdom.

THE *Pall Mall Gazette* says that a great epidemic of imaginary consumption has prevailed in Paris since the close of the recent tuberculosis congress in that city.

DR. FRIEDRICH, a health officer of Cleveland, O., has decided to establish a free clinic in that city for the treatment of tuberculosis on the fat-and-vegetable-juice plan.

PLANS have been completed for the New York City Sanatorium for Consumptives which it is proposed to erect near Castleton, on the highest point of Staten Island.

DOCTORS in the hospitals at Bordeaux, France, to the number of 100 struck recently owing to the refusal of the directors to satisfy their claims. The authorities are calling on private practitioners to undertake the care of the patients.

THE centennial meeting of the Medical Society of the State of New York will be held at Albany January 30 to February 1, 1906, under the presidency of Dr. Joseph D. Bryant.

THE ninth congress of the Italian Society of Laryngology, Otology, and Rhinology was held in Rome under the presidency of Prof. Vittorio Grazzi, of Florence, on October 24, 25, and 26.

BECAUSE they declare that in Evanston, Ill., a suburb of Chicago, living is more expensive than in the city, the physicians of the town have increased their visiting fee $1 a visit. They formerly charged $2 a visit.

WITH the advent of cool weather a great improvement is being noted in the yellow fever situation in New Orleans. On October 15 for the first time since the beginning of the epidemic the number of new cases was below ten, only eight being reported.

BARON K. TAKAKI, of Tokyo, president of the Sei-I-Kwai Medical Association, has accepted an invitation to deliver the Cartwright Lectures on Surgery in the Columbia University. Surgeon-General Takaki will sail for America toward the end of December.

DR. J. A. OUCHTERLONI, of Louisville, Ky., a well known physician and author, died at his home on October 8. He was one of the founders of the Louisville Medical College. He was knighted several years ago by King Oscar of Sweden and by the late Pope Leo XIII.

A MAN was recently operated upon in St. Luke's Hospital, New York, for recurrent appendicitis, when there was found in the appendix a 22-caliber bullet. The patient had shot himself accidentally thirteen years before, but the bullet had caused him no inconvenience until recently.

THE National Purity Conference was held at La Crosse, Wis., October 17 to 19. Delegates were present from all of the United States and Canada. The purpose of the conference was to consider and discuss rescue work, law enforcement, divorce, race suicide, and state toleration of the social evil.

TWENTY THOUSAND birth certificates were issued to children in New York City by the Health Department before the recent school openings. The *Post* pertinently observed: "When there are so many other circumstances important to their education could it not be taken for granted that these children had been born some time or other?"

It is proposed to remodel all the old hospitals of the United States navy. The hospital at Norfolk will be enlarged so as to make it capable of accommodating 250 patients, and the building arranged so that the facilities for the care of the sick and wounded may in time of war be increased to 500 beds. The naval hospital at Pensacola is also to be remodeled.

At the meeting of the International Sanitary Convention held in Washington, D. C., on October 13, the delegates accepted the forty-nine articles of the Paris Convention of December 3, 1903, with only a few modifications, required by the conditions in tropical countries. When ratified by the different South and North American governments there will be on practically all of the American continent one system of quarantine and preventive measures.

The Alvarenga prize for 1905 has been awarded to Dr. Chalmers Watson, of Edinburgh, for his essay entitled "The Importance of Diet: An Experimental Study from a New Standpoint." The next award of the Alvarenga prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about $180, will be made on July 14, 1906, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered.

To make eye tests and study conditions under which train signals are displayed oculists will be placed on the engines that pull the fast trains on the Chicago, Milwaukee & St. Paul railroad, says an exchange. The test will be made preliminary to a revision of the system of examining trainmen for defects of sight, and may result in a change in the present manner of displaying lights and semaphore arms. The road men complain that their eyes are tested theoretically rather than along practical lines.

The following steps are to be taken by those foreign medical men who desire to pass the Turkish colloquium for the purpose of practicing the healing art in the Ottoman Empire: (1) To present a petition and to pay the fees; (2) to see the medical council and to show the diploma; (3) the council to return the petition to the head of the school indorsed; (4) the head of that school to fix a day for examination; (5) the applicant's passport to be certified by the Bureau de Nationalité; and (6) the applicant to receive a diploma to pay 20 piastres (about $1) and to take the oath.

Among the members of the medical profession in foreign countries who have recently died are Dr. Edward Sas Korczynski, professor of medicine in the University of Cracow; Dr. Ludwig Winternitz, physician to the Rudolfstiftung Hospital, Vienna, aged fifty-two; Surgeon-General H. Schafer, director of the Charité Hospital, Berlin, aged sixty-five; Prof. Alfred Schaefer, of the Anatomical Institute of the University of Breslau; and Dr. Kohlschutter, professor of internal medicine in the University of Halle.

It is reported by a contemporary that by arrangement between the Italian ministers of public instruction and finance, the official representatives of the province and commune of Milan, and the managers of the hospitals of that city, it has been decided to establish postgraduate schools of clinical midwifery and gynecology, diseases of occupation, and contagious epidemic diseases. The first will have 200 beds, the second 60, and the third 164, distributed among seven pavilions. Others may be created later. The estimated cost of these establishments is $53,000. The directors are to rank with university professors.

Captain Ross, of the Revenue Cutter Service, rode six miles in an automobile with a patient known to be suffering from yellow fever, in order to test the mosquito theory, says an exchange. Captain Ross has just returned from the yellow fever district. While he was stationed at Fulfport, a soldier outside the town was down with the disease, and this journey was made to get the patient where he could be cared for. Captain Ross went into the hospitals to see patients, and came into close contact with the disease, suffering no ill effects. He took the necessary precautions against mosquitoes, and is fully convinced of the "mosquito theory."

Dr. Halil Hilmi, of the Ottoman Maritime Service, has discovered a tree the leaves and fruit of which are said to possess all the necessary qualities of saponaceous matter, and could therefore be utilized for fabrication of soap. He communicated his discovery to the medical faculty as well as to the Ministry of Commerce and Public Works, asking them to let a specially appointed commission of chemists examine the properties of the tree. This has now been done, and it has been found, as the Turkish newspapers published in Stamboul announce, that the fruit of this tree really possesses the properties attributed to it by Dr. Halil Hilmi. Two okes of the fruit yield one oke of per

fectly good soap (one oke is about two and three-quarters pounds). Detailed accounts of the tree are not available as yet. All the Turkish papers say is that it grows in hot climates. New experiments are to be made with the leaves, of which a large quantity is expected to arrive in Constantinople.

A SPECIAL meeting of the board of directors of the National Bureau of Criminal Identification and Association of Police Chiefs will be held in Washington this month to determine in what manner Congress will be approached for aid in carrying on the work of making a government bureau for criminal identification, says an exchange. The bureau now is sustained only by the subscription of about 100 cities. Major Sylvester, superintendent of the Washington police department, and president of the National Association, is drawing up the measure which will be taken before Congress. Another subject to be taken up is the adoption of the system of identifying criminals by means of thumb impression.

ACCORDING to the annual report of Surgeon-General O'Reilly, the health of the army has shown a steady improvement during the fiscal year ending June 30. During the fiscal year there were 406 deaths from all causes, or 6.75 in a thousand. Compared with 8.64 for the previous year, and 17.93 for the years 1898-1902, the showing is considered very good. The percentage of men constantly non-effective also showed a material decrease. Pneumonia was the greatest cause of death, the rate in a thousand being 0.65. Tuberculosis was second with 0.37, and typhoid fever next with 0.33. During the year there were 206 cases of gunshot wounds, 44 of which proved fatal. Twenty-one men were killed in action, 45 were drowned, 27 committed suicide, and 10 lost their lives through homicide. Among the native troops in the Philippines, 56 enlisted men were killed and 25 wounded. The unusual proportion of killed to wounded there, being fewer wounded than killed, is explained by the fact that 47 of the killed were victims of hand-to-hand fighting with edged weapons. The surgeon-general says that the result of operations on wounded men shows that the army has a corps of capable surgeons, there being but two deaths which could be attributed to operations. The engineer corps had the highest rate in a thousand for disease, the cavalry next, and the ordnance department the lowest. For death-rate from disease the signal corps stood the highest.

NEW PUBLICATIONS.

A TEXT-BOOK OF MEDICAL PRACTICE.

This text-book comes to us from the other side of the water, and is written by general physicians and specialists. While it contains a careful account of the anatomy, histology, and physiology, which might be considered in a proper sense prefatory of the consideration of various groups of diseases, the dimensions of the work do not exceed the bounds of one convenient volume. The sequence of the four main functions of the body—alimentation, circulation, respiration, and excretion—has been used as a basis for the arrangement of the sections, the controlling and coördinating mechanism of the nervous system being placed after them. Then follow the general and metabolic diseases, intoxications and poisons, and lastly the infective and tropical diseases. The work is a very complete one in every respect, and in its 992 pages contains a vast amount of very interesting reading matter. It may safely be commended as a good guide to the daily practice of medicine.

A Text-Book of Medical Practice for Practitioners and Students. Edited by William Bain, M.D. Durh., M.R.C.P. London, with illustrations. Longmans, Green & Co., London, New York, and Bombay, 1904.

INTERNATIONAL CLINICS.

This number of International Clinics contains the usual supply of excellent material—six good practical articles on treatment, five articles on medicine, four on surgical subjects, two on neurology, and other papers in dermatology, rhinology, ophthalmology, and pathology. A valuable article on ethyl chloride anesthesia is among the good things furnished. An article on radiotherapy also calls for special mention. The clinics will be received with appreciation by those who wish to be kept up to date in medicine.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners, by leading members of the medical profession throughout the world. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, Pa. Vol. III, fifteenth series, 1905. Philadelphia and London: J. B. Lippincott Co.

PRACTICAL MASSAGE.

This book is what its title indicates, a manual of practical massage. In it the author gives the result of his life's work. His method is a combination of what he has found to be best and most useful in manipulations and movements. The book is copiously illustrated and will form an excellent guide to those needing instruction in the art of massage.

Practical Massage in Twenty Lessons. By Hartvig Nissen. With 46 Original Illustrations. Philadelphia: F. A. Davis Co., Publishers, 1905.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Syringe versus the Irrigator in Gonorrhea.

F. Valantine (*American Journal of Urology*, July, 1905) says that even the mildest manifestations of gonorrhea spell a dangerous disease to the patient, his wife, his children, and the community.

No honest, conscientious advocate of the irrigation treatment of gonorrhea ever claimed that a patient was cured before all the tests which present science demands have shown the permanent absence of gonococci.

No honest advocates of the irrigation treatment ever made the preposterous unscientific assertions quoted as coming from them.

All advocates of the irrigation treatment insist and repeat and incessantly reiterate that the irrigation treatment, like any other treatment, is positively dangerous, unless employed with caution, tact, and gentleness.

The immense number of gonorrheas successfully treated by irrigation owe their recovery to the operator's gentleness and judgment.

Unbiased exhaustive trials, carefully conducted on a large scale with each new drug advocated for the cure of gonorrhea, have invariably caused us to return to the irrigation treatment.

The technique of irrigations is not so difficult to acquire, but their successful employment requires the same scrupulous attention to details that is demanded by every other remedial measure in any other disease. The choice of drugs used in irrigating solutions is not limited to potassium permanganate, silver nitrate, or mercuric bichloride, but is governed by the needs of each case.

The guides for the selection of drugs and the strength of the solutions employed are the condition of the discharge, the microscopic and cultural results, the character of the urine, and such involvements of the major and minor adnexa as may exist.

Chronic gonorrhea is always dependent upon infiltration of the urethral mucosa, involvement of the urethral crypts, glands, and follicles, or invasion of Cowper's glands, the prostate, or seminal vesicles, or all of these; therefore treatment of these extensions of the disease is necessary in conjunction with irrigations.

When a patient with acute anterior gonorrhea comes under treatment before the adnexa are involved, he will escape complications if irrigations are cautiously, skilfully, gently, and judiciously employed.

No other form of treatment will relieve pain and reduce discharge as do properly administered irrigations.

The Office Treatment of Diseases of the Rectum.

Chas. B. Kelsey (*Medical Record,* Oct. 14, 1905) says that while radical operations under general anesthesia usually save the patient time and suffering, yet conditions are such that it is necessary to treat very many cases under local anesthesia in the office. A method he once employed for this purpose was the injection of hemorrhoids with carbolic acid, but this he abandoned years ago. For securing local anesthesia he prefers eucaine to cocaine, and he also believes that this agent is much to be preferred to the injection of simple water for the same object, on account of the large amount of fluid required in the latter case. Local anesthesia is open to the serious objection, however, that by it the sphincters cannot be stretched without pain, on which account a very large proportion of rectal surgery is left dependent on general anesthesia. In speaking of fissure, the author says that, while not the method of choice, still almost as many cures can be effected by incising the sphincter under local anesthesia as by stretching it under gas or ether. The application of the actual cautery for pruritus is, if anything, more satisfactory if done in several sessions under local anesthesia than if but one treatment is given under general anesthesia. Fistula can sometimes be satisfactorily treated in the office, but much judgment is necessary in selecting the cases.

The author also describes a new office treatment for hemorrhoids, which he has practiced for some time with good results. It consists in punctate cauterization of the tumors with a needle heated by electricity, the parts being first rendered insensitive by injection of a few drops of weak eucaine solution. Only one or two applications are made at a time, and the treatment should not be repeated oftener than twice a week at first. The patient is not expected to be confined to the house or kept from his ordinary business. The time consumed by the treatment in an ordinary case is usually about three months, though it can be done in much less. The author has not observed any complications during ten years' use of the method, and he considers it a valuable

procedure in cases in which, on account of the patient's timidity or for other reasons, the clamp and cautery or ligature are not used.

Large Desmoid Tumor of the Abdominal Wall.

E. E. Montgomery and P. B. Bland (*American Medicine,* Sept. 30, 1905) state that the patient operated upon for this tumor was twenty-six years of age, was married at the age of nineteen, and gave birth to two healthy children. The tumor first appeared seven years before operation, and was observed in the lower portion of the abdomen and upon the right side, about the middle and lower thirds of the rectus muscle. The growth gradually increased in size for the first six years of its life, but during the last year it grew very rapidly. The tumor after removal measured 75 centimeters in its greater circumference and 66 centimeters in its lesser circumference. It weighed 19 pounds. It had its origin in the sheath of the right rectus. It was of a pearlish-pink color, of dense consistence. Microscopically it was found to be composed of young connective tissue cells. The blood-vessels were numerous, and in many areas the vessel walls seemed to be composed of tumor elements.

The authors review briefly the history of desmoid tumors, and claim that this is the largest thus far reported. They point out that the tumors usually occur in women, in those who have borne children, frequently after childbirth, and therefore they believe that pregnancy and labor have some influence in their production.

The Early Diagnosis and Radical Cure of Carcinoma of the Prostate.

Hugh H. Young (*Bulletin of the Johns Hopkins Hospital,* October, 1905) says that carcinoma of the prostate is more frequent than is usually supposed, occurring in about ten per cent of the cases of prostatic enlargement, as shown also by Albarran. It may begin as an isolated nodule in an otherwise benign hypertrophy, or a prostatic enlargement which has for many years furnished the symptoms and signs of benign hypertrophy may suddenly become evidently malignant.

Marked induration, if only an intralobar nodule in one or both lobes of the prostate, in men past fifty years of age should be viewed with suspicion, especially if the cystoscope shows little

intravesicular prostatic outgrowth, and pain and tenderness are present.

The posterior surface of the prostate should be exposed as for an ordinary prostatectomy, and if the operator is unable to make a positive diagnosis of malignancy, longitudinal incisions should be made on each side of the urethra (as in prostatectomy) and a piece of tissue excised for frozen sections, which can be prepared in about six minutes and examined by the operator at once. If the disease is malignant the incisions may be cauterized and closed and the radical operation performed.

Cancer of the prostate remains for a long time within the confines of the lobes, the urethra, bladder, and especially the posterior capsule of the prostate resting inviolate for a considerable period. Extraprostatic invasion nearly always occurs first along the ejaculatory ducts into the space immediately above the prostate, between the seminal vesicles and the bladder and beneath the fascia of Denonvilliers. Thence the disease gradually invades the inferior surface of the trigone and the lymphatics leading toward the lateral walls of the pelvis, but involvement of the pelvic glands occurs late, and often the disease metastasis is into the osseous system without first invading the glands.

Cure can be expected only by radical measures and the routine removal of the seminal vesicles, vasa deferentia, and most of the vesical trigone, with the entire prostate, as carried out in four cases by the writer and fully described by illustrations. This procedure is shown to be necessary by the forty cases which he reports, including eight autopsies and ten operations.

Concerning the Cause of Gall-stones.

Edwin Beer (*American Journal of the Medical Sciences*, September, 1905) says that Naunyn's factors—stagnation of bile plus inflammation of the bile-passage mucosa—do not seem to be sufficient by themselves to lead to gall-stone formation, even though the time allowed for the working of the causes be adequate. The writer's first series of cases show that these two factors lead to stone formation in patients who previously had gall-stones. In this series there is the first real evidence of the factors underlying gall-stone production and the causes of cholelithiasis in human beings, the third factor being a faulty hepatic metabolism. When this exists stones are formed. In its absence they are not produced, even though the first two factors are present.

MEDICINE.

The Leucocyte Count in Bronchopneumonia, Lobar Pneumonia, and Empyema in Children.

Henry Heiman (*Archives of Pediatrics,* October, 1905) says that a well marked leucocytosis is present in the bronchopneumonia of children. Leucocytosis in bronchopneumonia is independent of the amount of lung involved.

The degree of leucocytosis in bronchopneumonia stands in no relation to the height of the temperature.

Though there are some exceptions, yet in bronchopneumonia the general rule is that failure of the leucocyte count to drop when the pulmonary signs disappear indicates either a complication or a fatal termination of the illness.

A constant and considerable leucocytosis may regularly be expected in the lobar pneumonia of children. The degree of leucocytosis is about the same as in bronchopneumonia (bronchopneumonia, average leucocytosis in 19 cases, 33,900; lobar pneumonia, average leucocytosis in 24 cases, 31,700).

The leucocytosis in lobar pneumonia differs from that in bronchopneumonia in that the white blood count is higher when the pulmonary involvement is greater. If in lobar pneumonia two or more lobes be involved, a relatively high blood count may be looked for.

The leucocytosis in lobar pneumonia furnishes no clue as to the height of the temperature.

An increasing leucocytosis is the general rule in the lobar pneumonia of children, reaching the maximum just before the crisis. While failure to drop before the crisis may indicate a complication, yet this may be of no special significance. The precritical drop in the lobar pneumonia of children is inconstant, of little or no prognostic value, and cannot be utilized as a means of determining the time of crisis.

There is a high leucocytosis at the onset of empyema in children.

In general it may be said that the diagnostic value of the leucocytosis in the pulmonary affections of children is limited.

In certain instances, however, the leucocyte count is of great diagnostic aid. When, for example, in lobar pneumonia, resolution and the drop in the leucocytosis have occurred and there are present signs exciting suspicion that empyema will be a sequela, then blood counts should frequently be made at regular inter-

vals. A sharp rise in the count, provided that other causes of leucocytosis can be excluded, is then strong presumptive evidence of a supervening empyema.

Clinical Investigation of the Digestion of the Insane.

D. M. Murray and F. A. Inch (*American Journal of the Medical Sciences,* September, 1905) conclude that in states of mental depression (melancholia) hyperacidity is the rule, occurring in 71.4 per cent of von Noorden's fourteen cases, 81.8 per cent of the writers' twenty-two cases, or in 77.7 per cent of all cases. Males and females are equally affected. This hyperacidity is due to a true hyperchlorhydria. Hypertotal acidity also occurred in the writers' cases, and in this respect they correspond exactly with those reported by von Noorden. The hyperchlorhydria is of moderate degree, is fairly constant, and is associated with increased peptic power and rapid evacuation. The increased secretion is due to the neurosis or psychosis and not to proliferative changes in the glands, as is evidenced by the presence of increased secretion associated with degenerative changes in the glandular elements, and of the entire mucosa. The evacuation of the stomach is usually normal or somewhat hastened after the Ewald test breakfast, while after the large stimulus of the Riegel meal and ordinary asylum meal it is more often hastened. In the cases showing hyperchlorhydria the peptic value is never below normal and is often increased. Many of the insane suffer from various forms of gastrointestinal disease. These conditions are frequently overlooked. The writers urge the necessity of examining systematically in these cases the secretions and functions of the body, including the stomach contents. The signs of disease in the insane are almost entirely objective, and thus it is essential to make use of every modern method of value in diagnosing the disease. Cancer and gastric ulcer may often be recognized at the beginning. It is not improbable that the mental symptoms in these cases will proportionately decrease with proper treatment.

Acute Anterior Poliomyelitis.

Theo. A. Hoch (*Journal of Nervous and Mental Diseases,* October, 1905) says that anterior poliomyelitis is the result of a primary inflammatory disease of the blood-vessels of the cord which may be thrombotic or embolic.

The destruction of the ganglion cells is secondary, and depends in part upon the deficient blood-supply of the diseased area and in part upon pressure and toxins.

The pathological changes occurring in poliomyelitis of children and adults are apparently identical and dependent on similar causes.

There is sufficient evidence at hand to consider the disease as a rule of an infectious nature, however, not depending upon a specific microörganism, but resulting from bacterial infections of various kinds, and at times from other poisons.

The inflammatory changes are present in the peripheral vessels as well as in the branches of the anterior spinal artery, though these changes are seldom visible until the vessels enter the gray matter.

The inadequate collateral circulation within the anterior horns is favorable for sluggish circulation and embolism.

Detection of Tubercle Bacilli in Pleuritic Effusions.

E. Zebrowski (*Deutsche med. Wochenschrift,* No. 36, 1904) suggests a modification of Jousset's method, which consists of digesting the clot and examining the residue. The author prevents coagulation by adding an equal amount of a 0.5-per-cent solution of sodium fluoride to the effusion. This mixture is then set aside in a cool place for twenty-four hours, and the sediment then centrifugalized and stained by Ziehl's method. In 83 per cent of the cases of secondary pleurisy he found the tubercle bacillus, and in 55 per cent of the primary cases.

Insomnia.

J. S. Christison (*American Medicine,* Oct. 7, 1905) says there are three theories of sleep: (1) anemia of the brain and dilatation of abdominal and peripheral blood-vessels; (2) autointoxication from waste products which suspend action of the brain cells; (3) interruption of currents between brain cells owing to retraction of their dendrites. No condition proved, except a reduction of the flow of blood to the brain; sleep a natural appetite produced by fatigue; the senses and spinal cord only partially sleep; greatest depth of sleep in normal persons usually occurs in the second hour, while in psychopathic persons it commonly occurs toward the end of sleep. In narcotic sleep the senses are more completely shut to external stimuli than in normal sleep;

while in hypnotic sleep the senses are excessively active and keen. Characteristics of the sleep of coma: In sleep respiration changes in character, becoming almost entirely thoracic, costal, and more shallow. Occasionally the Biot breathing or Cheyne-Stokes rhythm may exist without any apparent significance. Nearly 40 per cent of persons in ordinary health between twenty and thirty years of age talk in their sleep at times, and most can answer questions while asleep.

Tuberculin Reaction in Children.

B. Schink (*Jahrbuch f. Kinderheilkunde*, No. 6) writing from Escherich's clinic at Vienna urges the more frequent employment of the tuberculin test in doubtful cases of tuberculosis of children. In Escherich's clinic it was used in 120 cases, the age of the children varying from three months to fourteen years. Of special interest is the intense reaction at the seat of injection in positive cases, as is also the duration of the general reaction. The shorter the time from the infection the more marked is the reaction even in small doses.

Immunity Through Mother's Milk.

B. Salge (*Berliner klin. Wochenschrift*, No. 36) urges that in cases of the mother contracting contagious disease the child be left at the breast. He states that infants under six months of age are practically immune to scarlet fever, and that an immunizing injection of antitoxin protects them against diphtheria. Tuberculosis he says is the only disease in which nursing is contraindicated. The author advises against wiping out the infant's mouth, as it produces abrasions which favor infection.

Occurrence of Spirochaeta Pallida in the Tissue of Man and Apes.

Kraus and Prautschoff (*Wiener klin. Wochenschrift*, No. 37, 1905) from their examinations find that the spirochaeta pallida does not occur in the tissue of men or apes unless they are affected with syphilis. They are found to be constantly present in syphilitic lesions, however, and from their findings the writers deduce that the spirochaeta pallida is with almost a certainty the etiologic factor of syphilis.

The Blood in Tuberculosis, Etc.

F. Erben (*British Medical Journal,* Sept. 9, 1905) has estimated the various constitutents of the blood in tuberculosis and some other diseases. In tuberculosis the hemoglobin, serum, albumin, and globulin are slightly diminished. Neutral fat and cholesterine are also decreased. Calcium, however, shows an increased percentage. This latter fact is of great interest from the standpoint of the previously ascertained increased excretion of calcium in tuberculosis. The toxins of the tubercle bacilli appear to first prejudice the formation of the albumins and later to act upon the erythrocytes. The plasma is at first almost normal, but oligoplasma and hydremia may follow later. Anemia sometimes occurs in the early stages and arises from a decreased activity of the bone-marrow. In carcinoma of the stomach the plasma, chlorides, and calcium are all increased, the ash, albumins, hemoglobin, iron, and erythrocytes being decreased. In diabetes the blood shows an increase in the extractives and in calcium, the potassium being decreased.

THERAPEUTICS.

The Cause and Treatment of Perineal Abscess.

S. Alexander (*Medical Record,* Oct. 28, 1905) in discussing the etiology of these processes lays stress on their origin in certain cases from infections extending into the glands of Littre, the glands of Cowper, the accessory glands found in the bulb of the corpus spongiosum, and the glands of the prostate. He says that at present the view is accepted that perineal abscess is due to a microbic invasion from the urethra, which occurs in three ways: (1) Through the glands connected with the bulbous, membranous, or prostatic urethra, from which it extends into the perineal tissues; (2) it may occur through small fissures in the mucous membrane of the urethra; (3) it may be the result of a more or less extensive mechanical rupture of the urethra from external or internal violence. Infiltration of urine may occur and play a prominent part in the infection, or it may be absent. It is not an essential causative factor in these cases. The essential cause of perineal abscess is the action of some pathogenic microbe, but contributing and exciting causes are external injuries, such as falls or blows, and especially the unskilful or ill-advised use of urethral injections and irrigations and rough and unnecessary instrumentations. The author there-

fore warns against irrigating the deep urethra, except through a catheter or forcible injections. He considers that perineal suppurations of urethral origin cannot be efficiently treated except by operation, and summarizes his plan of treatment as follows: An abscess in the perineum should be freely opened by median incision and its cavity thoroughly disinfected; the membranous urethra should also be opened, and the deep urethra should be explored by the finger to detect any foci of suppuration which may be present either about the membranous urethra or in the prostate. When such foci are found they should be opened by the finger into the urethra, and the floor of the abscess should be made level with the floor of the urethra; the urine should be diverted from the urethra for a few days by draining the bladder through a large catheter passed into the perineal wound. The details of the operation are described at length, and reports of nine cases managed in this way are given.

Convalescents: Their Care from the Medical Standpoint.

L. K. Frankel (*Medical Record*, Oct. 28, 1905) says that notwithstanding the strides that have been made within the past two decades in sanitary science, in the practice of medicine and surgery, in the betterment of living conditions, and in the general improvement in the physical status of all classes of the population, it is nevertheless a fact that in only a few diseases has the death-rate been lowered. A study of the census reports shows that while deaths from cholera infantum, diphtheria, and consumption were less in 1900 than in 1890, the reverse was the case for nearly all other diseases. This state of affairs the author attributes largely to the fact that in hospital work and in private practice among the lower classes it is impossible for economic reasons to keep the patients under treatment until they are fully restored to health and strength, and in this way a large class of "half cured" people is developed. These are in a condition of lowered vital resistance, so that they easily fall a prey to serious illnesses. The remedy lies in the establishment of suitable convalescent homes, which shall not be like hospitals, but shall resemble as nearly as possible the normal home. For this purpose the country is most suitable, and where land is cheap such institutions should be built on the cottage plan. At the same time the patient's family must be provided for in his absence, and in this connection the author speaks of the Wini-

fred Masterson Burke Relief Foundation and the Loeb Memorial Home for Convalescents. He urges that the benevolent work of these private institutions be taken up by the state, and says that this would be the best prophylactic against disease of all sorts.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Molluscum Fibrosum.

A. W. F. Noyes (*Intercolonial Medical Journal of Australasia,* August, 1905) says that the so-called molluscum fibrosum growths arise from the branches of the cutaneous nerves by proliferation of the endoneurium. The new tissue may remain confined by the perineurium for a period, or it may break away and become diffused at quite an early stage, spreading into the adjacent tissue, surrounding any or all of the structures of the corium and subcutaneous tissue, including altered nerve branches themselves which are still confined by the perineurium. The proliferation of the endoneurium and the consequent disappearance of the nerve fibers and their axis cylinders leads to more or less loss of sensation in the cutaneous surface overlying the new tissue. Similar changes in the nerves composing the vasomotor apparatus of the cutaneous vessels involved in the new growth may account for the clinically observed discolorations in connection with them. The small nodular projections, due to proliferating endoneurium confined by perineurium, may occur in the smaller nerve branches, giving microscopically a neurofibroma-like appearance without being clinically recognizable as such.

Oxygenated Water in Dermatology and Urology.

A. Scholtz (*British Medical Journal,* Oct. 14, 1905) has used 30-per-cent oxygenated water in the following affections: (1) Ulcerative processes of the skin, especially when gangrenous; (2) ulcerative stomatitis, especially when purulent and ulcerative. In these cases a mouth-wash of two or three per cent is used, and the strong solution painted on the gums daily. (3) Suppurating buboes and gangrenous or serpiginous forms

of soft chancre; (4) buccal leucoplasia, when the solution is painted on either alone or with nitrate of silver; (5) comedones, acne, syphilides, and other pigmentary conditions have sometimes given good results; (6) in several forms of cystitis an injection of one to three per cent of the solution was used. In chronic gonorrhea and postgonorrheal urethritis injections of one-half- to one-per-cent solution, generally combined with nitrate of silver 1 in 1000 to 1 in 4000, gave good results. The injections lasted one to five minutes, and from 150 to 600 cubic centimeters of the solution were used.

GYNECOLOGY AND OBSTETRICS.

The Gynecologic Bladder.

A. E. Gallant (*Medical News*, Oct. 14, 1905) says that frequent and painful micturition is met with in about one-third of the females who apply for gynecologic advice. In 25 per cent this is due to specific (gonorrhea) urethritis, often associated with vaginitis, etc. But few cases of gonorrheic infection are met with. Vesical prolapse and intrapelvic or abdominal tumors are the most common factors. Uterine displacement, inflammation involving the broad and the uterosacral ligaments, the tubes, and ovaries, must be reckoned with and relieved by appropriate measures before the bladder symptoms can be cured. As changes in the urine producing symptoms do not occur in more than five per cent of all cases, after medical treatment has been tried for a time and found wanting, the pelvis should be explored digitally and the anal region inspected, and not infrequently the rectum and sigmoid as well. Whenever urinalysis points to calculi or infection in the bladder, ureter, or kidney, it is the author's custom to pass the cystoscope and catheterize the ureter.

The Operative Treatment of Puerperal Pyemia.

A. Bumm (*British Gynecological Journal*, August, 1905) bases his plan of tying off and extirpating the venous plexus in the neighborhood of the uterus upon the study of the morbid anatomical processes in which the acute and chronic forms of puerperal pyemia originate, essentially depending upon the advance of the active agents of inflammation out of the endometrium into the veins. In five cases here reported Bumm

dissected out and tied off the affected veins, and in three of the five, all marked by numerous and severe rigors, succeeded in arresting the disease. The cases cured were of the chronic form of the disease, but one case of acute pyemia after abortion was also cured. Bumm discusses the diagnosis of cases suitable for the operation and the technical details of its performance, and recommends that in puerperal pyemia the extirpation of the uterus should not be attempted, but that the spermatic veins should be excised, and the hypogastric veins merely tied.

Rupture of Tubal Pregnancy During Examination.

J. Dodds (*American Journal of Obstetrics,* April, 1905) attended a patient, aged twenty-seven, with characteristic symptoms of extra-uterine pregnancy in the second month. She refused operation; the pelvic swelling grew larger, and a month later the patient was anesthetized. The tumor was cystic and perfectly movable. Dodds's assistant palpated the tumor, and whilst doing so it vanished. As the diagnosis had been questioned in consultation the patient was permitted to come out of the anesthetic until signs of shock and hemorrhage appeared. Then the abdomen was opened and found full of blood, in which a large fetus floated. Pregnancy had developed in the right tube and the sac had ruptured. The placenta was removed with much difficulty on account of adhesions. The peritoneal cavity was flushed with salt solution and drained for twenty-four hours. The patient made a good recovery.

Foreign Bodies in the Uterus.

K. Knoop (*British Gynecological Journal,* August, 1905) reports two curious cases: (1) A woman of fifty-seven in whom a foul discharge came on suddenly was admitted under suspicion of carcinoma of the body of the womb. Examination led to the removal of an extremely rusty hairpin, which according to the patient's statements must have lain in the uterus for six years. (2) A young woman of nineteen in labor, the child's breech presenting. The midwife found against the child's sacrum a tumor, which proved to be a ball as large as a walnut, composed of crumpled-up newspaper. The patient admitted that she had habitually used such a plug as a preventive, and that she had not been able to extract the last, which, however, had been introduced before the beginning of her pregnancy.

THE MEDICAL AGE

Vol. XXIII. DETROIT, DECEMBER 10, 1905. No. 23.

ORIGINAL CONTRIBUTIONS.

TUBERCULAR LARYNGITIS—A PLEA FOR EARLY RECOGNITION AND TREATMENT.*

BY L. C. CLINE, M.D., INDIANAPOLIS.

Of all laryngeal affections, tuberculosis is one of the most common, tending in a high degree to fatal results; it may occur as a primary disease, but it is usually secondary, and comes as a complication of the same disease in the pulmonary or other organs. The time allotted will not permit a detailed account of all the manifestations of this dreaded disease. I therefore can only point to some of the more salient features as they have been studied and observed in my own experience.

Some of our authors and writers claim that there is no such thing as primary tuberculosis, but regard the laryngeal involvement as supplementary to the pulmonary disease in every instance. The great number of cases that have been studied and reported in recent literature are convincing that it does occur as a primary lesion and is quite acceptable from a pathological standpoint. Primary infection may, and doubtless does, occur through the lymph channels from the pharyngeal, faucial, or lingual tonsils, or some portion of the upper air or digestive tract. A simple chronic catarrh of the upper respiratory tract, associated with long-continued depression of vitality, becomes a potent factor for tubercular invasion of the larynx. No part of the upper respiratory tract is immune from the tubercular invasion, but certain parts are more liable than others. These in the order of their frequency are the larynx, pharynx, trachea, tongue, and nose. We find tuberculosis of the larynx developing in three distinct stages: First, the premonitory or pretubercular stage; secondly, the stage of infiltration or thickening; thirdly, the stage of ulceration.

*Read before the Indiana State Medical Society.

The first or premonitory stage—if there is such, and most writers concede there is such a stage—is the one in which we find the most difficulty in making a diagnosis. Many catarrhal inflammations have a close resemblance to the first invasion of tubercle on the mucous surface, and it is difficult to determine whether they are cause or effect. Local pallor is usually pointed to as one of the first symptoms; while this is true in lung involvement it does not always hold true in primary laryngeal infection. The diagnosis of primary laryngeal tuberculosis is facilitated by obtaining an accurate history of the case; by the symptoms as related by the patient; by the accurate and regular use of the clinical thermometer; by carefully noting the conditions and changes in the larynx as revealed by the laryngoscope; and by the presence in the sputum or scrapings of the tubercle bacilli. The absence of tubercle bacilli from the sputum or scrapings taken from the larynx should not be taken as conclusive evidence that the disease does not exist. The patient will complain of a dryness of the throat, with some difficulty in swallowing. The dysphagia in advanced cases is the most distressing of all the symptoms. The victim would rather starve than undergo the agony caused by the act of swallowing. Impairment of the voice is one of the first symptoms to call attention to the larynx. Hoarseness to complete aphonia will prevail, depending on the situation and character of the lesion. The voice is croupy or brassy, according to the extent of the invasion of these structures. At first there is only mucus expectorated, which later becomes mucopurulent. Slight hemorrhages may occur from capillary erosions. The constitutional symptoms are general malaise, weakness, loss of weight, slight elevation of temperature in the afternoon with subnormal temperature in the early morning. The symptoms and structural changes will be further noticed in connection with the secondary invasion. In Grayson's new book we find this statement: "The frequency of secondary invasion of the larynx has been demonstrated by Heinze, who, in autopsies of 1226 cases dying of pulmonary phthisis, found that the larynx presented unmistakable evidence of the disease in 51.3 per cent." Other writers give from 20 to 40 per cent. It is altogether probable that, while the disease attacks the larynx subsequent to pulmonary involvement, the bacilli reach the laryngeal tissues through some abrasion of the epithelium.

Chronic catarrhal laryngitis, with general impaired vitality, furnishes the most favorable conditions for tubercular infection.

The male being more subject to catarrh, it is in this sex the greater number of cases occur, the proportion between the two sexes being about three to two. In the secondary cases there is a period of anemia of the laryngeal mucous membrane that precedes the stage of infiltration and tumefaction that is generally recognized as the first evidence of tuberculous deposit. The commissure, or interarytenoid space, on account of its loose cellular tissue and glandular structure, and on account of the sputum collecting and clinging to this region before being expectorated, is the favorite point of infection. The next point most frequently attacked is the apex of one or both arytenoid eminences. The pyriform swelling of the arytenoid, often involving the aryepiglottic fold, may be considered almost pathognomonic. The swelling may become so great at times as to hide the vocal bands. Paresis of one or both cords may occur during the stage of hyperemia.

The epiglottis and the ventricular bands are the next parts most frequently attacked, being almost equal in their frequency. Perichondritis with great tumefaction may follow infiltration of the mucous covering of the epiglottis. Tuberculous ulcers in the larynx are at first small, shallow, often occur in clusters, but soon coalesce. Their edges are ragged, uneven, "worm-eaten," and are slightly elevated above the surrounding tissue. Extensive infiltration of the perichondrium may cause necrosis of the cartilages, particularly the arytenoids and the cricoid. Recurring and persisting hyperemia, infiltration, and tumefaction are the marked signs of laryngeal tuberculosis. These symptoms should receive careful attention, especially where pulmonary tuberculosis already exists. These symptoms may be present without being tubercular, even in a tubercular patient. Lithemia, colds, rheumatism, and voice strain will produce hyperemia and thickening of the laryngeal mucous membranes, which may recur at intervals for years. The vocal cords and ventricular bands are occasionally attacked, especially in cases where they are put to hard usage and overwork. The epiglottis may escape infection, but when it is attacked it comes late and is always preceded by pulmonary involvement.

The arytenoid and cricoid cartilages are not infrequently the seat of necrosis, on account of the extensive infiltration of their perichondrium. When the cartilage becomes necrotic there is a peculiar odor, which is of some diagnostic value. Many cases that are found in the second and third stage require but a brief investigation by one who is accustomed to the use of the

laryngoscope to make a correct diagnosis. The primary or incipient stages of secondary invasion may require days or weeks of careful observation to make a diagnosis.

The family history, coupled with a pulmonary lesion, together with all the phenomena that usually follow, leave but little doubt as to the laryngeal lesion. In other cases there will be no collateral or corroborative evidence to aid us, and we have to judge from the appearance and changes found in the larynx itself. The diseases that are most likely to be confounded and must be eliminated are chronic catarrhal granulomata, syphilis, and carcinoma of the larynx.

Catarrhal invasion of the larynx is almost invariably secondary and is a result of extension from above. Mouth-breathing, the excessive use of alcohol and tobacco, overtaxing and abuse of the voice, are all conditions that a careful observer will quickly take into account. The congestion of the mucous membrane is usually more marked in certain parts than in others. The aryepiglottic folds and the ventricular bands are about equally affected; the cords may vary in appearance from a slight redness to the fully developed singer's nodules.

Syphilitic ulcers may occur in the same locations as tubercular ulcers, and at first it may be difficult to distinguish them either by their appearance or microscopically. As a rule the syphilitic ulcer is large, although it may be small early in the secondary stage. It appears soon after the first laryngeal symptoms and spreads rapidly. After a few days of hoarseness, examination may reveal a large ulcer. In tuberculous ulceration there is a protracted history of hoarseness and pain running a chronic course. Pain on swallowing is an important diagnostic symptom. On the contrary, a large syphilitic ulcer may be present with scarcely any pain or impairment of the general health. Other evidences of the disease are usually found. In the superficial ulcers of syphilis we find a yellow purulent discharge, a slightly rounded excavation; the surrounding mucous membrane is red, but not swollen. In the tubercular process the ulcer is covered with gray mucus, there is no excavation, and the surrounding mucous membrane is pale, anemic, and has a marked swollen appearance. In the deep syphilitic ulcer we have all the features of the superficial exaggerated; the surrounding tissue markedly injected; the ulcer giving off not only pus, but necrotic tissue. Where doubt exists a few days' administration of the iodides will enable us to reach a positive diagnosis. We should not lose sight of the fact that tuberculosis and syphilis may coexist.

Carcinoma attracts attention long before ulceration takes place; it is characterized by lancinating pain from its inception. The swelling is unilateral, with irregular nodular outline, its mucous covering highly injected. After ulceration has taken place there is a profuse secretion of an ill-smelling muco-pus, frequently containing blood and necrotic tissue. Laryngeal stenosis is characteristic of malignant disease, while it rarely occurs in tuberculosis. Notwithstanding these and many other minor differences that might be pointed out, the diagnosis is often difficult even for the expert, especially in the incipient and very early manifestations.

When tubercular laryngitis develops as a complication of pulmonary lesions it adds greatly to the gravity of the unfavorable prognosis. When the disease develops primarily in the larynx, and is early recognized and treated, the prognosis is much more favorable. Quoting from Bosworth, "The average duration of life in pulmonary phthisis complicated by laryngeal disease is two years; the average duration of life after the supervention of laryngeal complications is eighteen months."

The prognosis may be materially influenced by certain local manifestations in the larynx. Some parts when involved are subjected to constant irritation and pressure during the act of swallowing, viz., the epiglottic commissure and arytenoids. The patient's inability to take food, the lowered vitality, and the irritation facilitate the spread of the disease. If the more protected parts are involved, as the ventricular bands, the local lesions develop more slowly.

Too much stress cannot be placed upon the early recognition of tuberculous invasion of the larynx, for it is in the early stages, whether primary or secondary, that we must make our fight, before the disease has sapped and robbed the patient of his vital and reconstructive forces. Any persistent laryngitis attended with violent paroxysmal cough should be carefully watched. A little dry coughing occurring just before speaking should be looked upon with suspicion. In some cases speech is affected without cough. A sensation of a lump in the throat, with no apparent lesion visible, is a form that occurs particularly in women. An early gray color of the lower pharyngeal and laryngeal mucosa should be watched with anxiety. The lesion that is most frequently observed first is the pyramidal projection in the commissure of the arytenoids and the infiltrated club-shaped appearance of one or both of the aryepiglottic folds. The microscope will often, but not always, aid in the diagnosis;

its value is much greater in the later stages. With our present knowledge of the disease and the improved methods of treatment, especially in the early stages, we can give a much more favorable prognosis, as compared with a few years ago. I believe that a great deal can be done for these cases if we give the necessary thought and time to each individual case, and not class them all in one group to receive the same line of treatment.

The treatment may, for convenience, be divided into hygienic, medicinal, surgical, and climatic. Under hygienic measures, certain rules must be rigidly enforced. The removal or suppression of everything that acts as an irritant must be attempted. Functional rest is imperative. The use of the voice, either phonic or in a whisper, must be controlled as far as possible. Talking increases the cough and causes a desire to clear the throat.

The first essentials in treating tuberculous ulceration of the larynx are absolute cleanliness; the regulation and proper amount of food; strict attention to the skin; and the right amount of exercise in the open—all of which can best be carried out in sanatoriums under competent medical supervision. Medicinally, great care should be exercised in the amount and kind of drugs used. Local treatment depends on the stage of the tubercular process. In the early stages, when only redness and slight swelling exists, soothing sprays and warm inhalations, followed by mild astringents, should be employed. When congestion is combined with thickening, adrenalin may be added either by spray or applicator; in marked thickening, submucous injection of lactic acid or creosote may be used. These injections should be given in the quiescent stages, soothing and cleansing sprays should be frequently used, together with the more active applications of lactic acid, guaiacol or creosote, varying from 10- to 50-per-cent solution. For the protection and stimulation of granulating tissue there is nothing better than a weak solution of silver nitrate. Of the many drugs used for local applications the ones mentioned are the most popular. The pain on swallowing in ulceration varies from a slight degree to continuous and intense suffering. Warm inhalations of menthol and iodoform usually suffice for the mild cases, but orthoform, anesthesin, or cocaine is necessary for those of greater severity. Orthoform is perhaps the most potent and least harmful of all drugs used for this purpose; its value may be much enhanced by a solution in an oil called "basol," which will hold in solution 15 grains of orthoform and 10 grains of iodoform to the ounce. When these measures do not relieve the pain, menthol, camphor, and chloral

hydrate in equal parts, applied locally and externally, will often give great relief. Tracheal injections with warm medicated oil give great relief in some cases. When a plan of treatment is selected it should be persistently, frequently, and systematically carried out. Some claims have been made for the efficiency of the actinic and violet rays, but having had no experience with their use I will not discuss them.

A few years ago great stress was laid upon surgical treatment. Time and disastrous results in many cases have forced this method of treatment in the background except in carefully selected cases with skilled operators. The lesions must be accessible and localized, so as to permit of complete removal of the affected areas. The patient should be in good physical condition; there should be no exacerbation of temperature at the time of operation; no idiosyncrasy to cocaine. Cutting instruments are preferred when a complete removal, rather than destruction, of the diseased tissue is intended. The curette is preferred in the ulcerative stages to remove all the necrotic tissue preparatory to local medication and to relieve dyspnea in advanced cases. Much benefit may be derived by clearing away any obstruction to free nasal respiration. I have used the electric cautery with great benefit in a few cases. General systemic treatment should be pursued the same as in the pulmonary variety.

When we turn to climatic treatment we are confronted with a great many difficulties. In the first place, climate, like disease, is never stationary, and to remain in the most favorable climatic districts one must be able to meet the expense incident to following up the seasons. It is only a small percentage that can meet these demands, and the great majority must make the fight at home.

Tubercular throats do not do well in large cities, near the sea or large bodies of inland water. High winds, especially east and north, are detrimental to ulceration. They do better in a moderately warm and dry climate free from dust and winds. What we need most of all is for every county in our State to convert some of their beautiful hill lands into sanatoriums and equip them with every comfort and attraction, so that patients can receive the proper amount of exercise in the open; where they can be under discipline and be required to do the things that would contribute to their own interest and others' welfare. What those infected people need most is to go into these sanatorium schools and be educated as to how the disease is contracted and how to get rid of it, and not rush to other

States and inflict themselves upon other people, spreading their disease broadcast. Every State and county can treat their own if they will take the pains to learn how. My observation teaches me that the well-to-do tubercular patient needs instruction and discipline as well as the poor. As long as these patients will listen to the advice of neighbors, newspaper advertisements, and quacks, there will not be much progress in the arrest and spread of this disease.

I am convinced that with an early recognition and a well-directed treatment we can at least cure a small percentage; and with all the rest, though we may fail to cure, we can do much to palliate suffering and prevent the spread of the disease.

ANENT CONGENITAL IMPERFORATE ANUS.

BY Q. W. HUNTER, M.D., LOUISVILLE, KENTUCKY.

During the evolutionary and developmental processes of the human embryo, strange anomalies (imperfections, deformities, malformations, etc.) sometimes take place. Congenital vices of conformation or errors of development of the anal and rectal structures are sufficiently infrequent to command more than passing notice.

Complete congenital imperforate anus, the rectum either terminating in a blind pouch at varying distances above, or communicating with the bladder, the vagina, or the urethra, constitutes one of the anatomical deviations of development occasionally observed in this region. According to Collins but one such imperfection was noted in over sixteen thousand five hundred infants born in the Rotunda at Dublin; Lohrer of Vienna observed but two instances of imperforate anus in fifty thousand births; Cripps claimed that one case of intestinal malformation occurred in four thousand five hundred children born; Wharton and Curtis suggest the percentage of one in ten thousand births; the estimate of Stucky and other observers is one in fifteen or twenty thousand; statistics of the city of Brooklyn showed that during five years twenty-five infants perished from complete congenital imperforate anus (or rectum), that there were recorded during the same period over ninety thousand births, and accepting as correct the registrar's estimate that only about half the actual births were reported, this would mean one case of imperforate anus in every seven thousand two hundred births.

While it is manifestly impossible, based upon analysis of

such variable statistical data, to even approximately determine the proportion of cases in which this malformation occurs, it is believed one case in every ten thousand births represents about the average. And in this connection the fact must not be permitted to pass unobserved that many infants born with anal or rectal imperfections are allowed to perish from lack of prompt and adequate surgical intervention, and particularly is this true where the accoucheur is an ignorant and untrustworthy midwife; and the statement will apply with equal force to country practitioners in certain remote districts, monthly nurses, *et al.*, under whose charge infants not infrequently succumb because of neglect, mismanagement, ignorance, or otherwise.

It is far from the writer's intention to contend that all such malformations are amenable to surgical treatment, but the fact remains that the majority of them are, and the accoucheur who does not soon after birth minutely examine the infant to definitely determine the presence (or absence) of the anal aperture, and that the rectum is pervious, is guilty of gross neglect of professional duty. And since delay in the application of requisite remedial measures inevitably results in a fatal termination, it is of paramount importance that the attendant possess a comprehensive anatomical knowledge of the structures implicated as well as the surgical principles indicated, that relief may be promptly afforded by operative intervention.

In regard to the causes concerned in the production of the abnormality referred to: One author (Kirby) remarks that of the primary cause which determines these and other congenital vices nothing of a definite character has yet been ascertained, and the subject still remains a problem for future organologists to solve; another (Stucky) claims that during the latter part of the third or beginning of the fourth month of fetal life the anus is formed by an inflection of the epiblast, which extends slightly inward, and approaches the termination of the hind-gut, finally communicating with it by a solution of continuity in the septum between the two. Occasionally, however, there may be no inflection of the epiblast, or there may be a persistence of the fetal septum, either condition resulting in a form of imperforate anus.*

There are many interesting examples of anal and rectal mal-

*These widely divergent statements made by the two authors as to causation are simply noted, *en passant*, for what they may be worth, and the writer does not wish to be understood as indorsing or contradicting either, since in this dissertation he is not presuming to discuss mooted etiological propositions.—Q. W. H.

formations recorded in ancient and modern medical literature, and the interpolation of a few of these which have a more or less distinct bearing upon the vice of conformation under consideration may be permissible: Benivenius, Borellus, the Ephemerides, Tulpius, Zacutus Lusitanus, and others speak of the passage of fecal matter from the penis, and there are many instances of vaginal anus recorded. Langlet cites a case in which the intestine terminated in the bladder, and Arand mentions recovery after atresia of the anus with the passage of fecal evacuations from the vulva.†

Bartholinus, the Ephemerides, Fothergill, de la Croix, Riedlin, Weber, and Zacutus Lusitanus mention instances in which gas was passed by the penis and urethra. Camper records such a case from an ulcer of the neighboring or connecting intestine; Frank from cohesion and suppuration of the rectum; Marcellus Donatus from a penetrating ulcer of the rectum; and Petit from communication of the rectum and bladder.†

The passage of flatus from the vagina, the vulva, and the uterus is mentioned by Bartholinus, the Ephemerides, Meckel, Mauriceau, Paullini, Riedlin, Trnka, and many others in the older literature. Dickinson mentions a male child four years of age who had an imperforate anus and urethra, but who passed feces and urine successfully through an opening at the base of the glans penis.†

Stucky‡ reports the case of a colored child delivered by a negro midwife. Nothing abnormal was noted until the infant was three days old, when failure of the bowels to move disclosed the fact that there was no anus. The child when seen was emaciated and jaundiced, but possessed the usual amount of activity. There was no evidence of pain, no abdominal distention, nor had there been retching or vomiting. Inspection showed the entire perineum smooth, with the exception of a small spindle-shaped "bleb" slightly darker than the surrounding integument at the posterior margin of and extending into the scrotum. No fluctuation or bulging was noted even when the child cried. The urinary and all other organs were apparently normal.

An incision half an inch in length was made at the normal site of the anus, which was increased to one inch in depth, without encountering the rectum. The small bleb was then incised, and a small quantity of gas escaped, but no meconium. The rectum was almost straight and terminated at this bleb. It

†Abstracted from the Anomalies and Curiosities of Medicine.
‡*Medicine.*

lacked both the curve toward the hollow of the sacrum and coccyx and in the opposite direction near the anus. Although no fecal matter had escaped there was no evidence of obstruction. A piece of small rubber tubing was introduced and fastened *in situ* with silk sutures, and the first incision was closed with silk. An hour later the child was given half a teaspoonful of castor oil, which resulted in a copious alvine evacuation.

There was no infection, and the wound healed by first intention. The rubber tubing was removed on the sixth day and the silk sutures two days later. The anus presented a natural appearance, the stools were normal, and no further trouble was experienced with the intestinal tract, but the child succumbed to marasmus seventeen days after birth.

Wathen* was consulted by a woman twenty-two years old, and inquiry elicited the history that she was born with an imperforate anus. There was an opening one-fourth inch in diameter connecting the bowel with the vagina just above the ostium vaginæ. Trouble had been experienced in passing feces from birth, and when two years old a perceptible enlargement was observed in the left side of the abdomen. She finally had but one fecal evacuation per month, that being the result of large doses of salines, which rendered the dejecta liquid and permitted their passage into the vagina through the rectovaginal opening.

When seen by Wathen there was an abdominal tumor extending above the umbilicus, which proved to be dry and inodorous fecal matter. An artificial anus was made an inch posterior to the vagina; the rectum was located and its mucous membrane pulled downward and stitched to the external parts, making a mucous lining to the tract. The function of the sphincter ani muscles was preserved, and feces were passed daily thereafter through the newly formed anus. The rectovaginal fistula was successfully closed, and the patient made a good recovery.

Thompson† refers to a girl aged nineteen who had a congenital imperforate anus with a rectovaginal fistula upon whom he operated successfully. The abnormality was noted when the child was a week old, and several weeks later a physician had attempted to make a proper anal orifice, but failed. During the nineteen years she had no control over defecation, but during early childhood relief was obtained without the administration of aperients, although there had never been a "formed" motion. Seven or eight years ago she began to suffer from attacks of "sickness and purging," which at first occurred at intervals of

Louisville Medical Monthly.
†*Medical and Surgical Reporter.*

three or four months, but latterly once per month. During these attacks she had stercoraceous vomiting and constant passage of fluid feces through the vagina. The hymen was absent, the vagina capacious, and just within the vagina on its posterior surface could be felt a round aperture communicating with the rectum. The rectum and large intestine were loaded with fecal matter. The rectovaginal fistula was closed, an incision made at the proper site of the anus, the rectum brought down and stitched in place, followed by complete recovery and good function.

Laurie* reports three cases of imperforate anus and rectum. First, he was called one night to see a female infant aged twenty-four hours, and found a midwife busy giving it injections of soap and water, but still could get no fecal passage. There was a well formed anus, and on passing his finger three-quarters of an inch into it he found a very dense membrane occluding the passage. He opened this by a crucial incision, much to the relief of the child, and instructed the mother and nurse how to keep it dilated by passing the finger well oiled into the part. He saw the child some time later, and it was doing well.

The second case was also in charge of a midwife. There was a very fine and delicate membrane closing the external aperture of the anus. The child had been born the previous evening, and no feces had passed. The membrane was easily torn by a pair of dressing forceps, and the mother was instructed to keep it dilated.

In the third case he was informed by the nurse that the child had been born sixteen hours before and had no anus. On examining the perineum there was a well-marked raphe and considerable bulging when the child strained or cried, but no indication of an anus. Under chloroform he made an incision from the center of the raphe to the coccyx and felt the rectum bulging downward. By blunt dissection of an inch through the cellular tissue he found the rectum ending in a blind pouch. Gently pulling it downward he incised it by transfixion anteroposteriorly and sutured the end of the bowel to the skin. The sutures held, the child made a good recovery, and had full control over its fecal evacuations.

Stendal† was called to a child one day old, as the latter had not yet voided meconium. The anal orifice was found to be absent, but the child was otherwise healthy and fully developed.

*British Medical Journal.
†Pediatrics.

In place of the anus there existed a passage the size of a raven's quill, which took its course from the site of the anus along the raphe to about the middle of the scrotum, where it ended in a small opening. Meconium could be forced out of this passage by stroking from before backward. As a hollow sound which was introduced found its way to the neighborhood of the anus, the passage was cut open by means of a blunt-pointed knife guided along the sound to the anus, after which the accumulated meconium was at once evacuated from the normal sized rectum. Perfect recovery resulted, with rectal function unimpaired.

Vance* reports two cases of imperforate anus which were successfully operated upon. The first was a male infant nine weeks old in which defecation took place through the urethra. The rectal pouch was fully one and a quarter inches above the skin, and there was no pigmented spot indicating the normal site of the anal orifice as is usually the case. An incision was made, the rectum brought down and sutured to the skin, and the opening dilated at stated intervals. No effort was made to close the communication between the rectum and the urethra. Recovery with perfect function of the rectum resulted.

The second case was a female four months old when seen. There was no anal orifice and the child defecated through the vagina. There existed a teratoma the size of a goose egg in the right ischial region, which was removed. A curved sound was introduced through the vaginal opening and brought down to a small dimple where the anus ought to have been; proper incision was then made, the rectum located and brought down and sutured to the skin. The rectal opening was dilated at intervals, and defecation thereafter took place in the normal way. The rectovaginal fistula was successfully closed, and the result was perfect in every way.

Mathews* in twenty-seven years' practice has seen only four cases of imperforate anus. Two were simple affairs and were successfully relieved by prompt surgical intervention. Another was a counterpart of the example cited by Vance, a female child whose rectum opened into the vagina, and which was relieved by operation not dissimilar to that performed by Vance and already referred to. The fourth was a male child whose rectum opened into the urethra. As it was impossible to locate the rectum the author refused to operate.

Elliot† refers to an infant two days old in whom what appeared to be a perfect anus proved to be a blind pouch less than

**Louisville Monthly Journal of Medicine and Surgery.*
†Medical News.

one-fourth of an inch in depth. The abdomen was distended, and there had been no passage of meconium. Incision at site of anus showed complete absence of the lower part of the rectum. The coccyx was removed by the Kraske operation, the rectal pouch brought down and stitched to the skin opening, which was dilated at intervals, and the child recovered with good function.

Ormrod§ reports the case of an imperforate anus in a male child. There was an opening into the urethra through which fecal matter passed. Proper incision was made, the rectum located, and after some difficulty brought down and sutured in the usual way. The operation was followed by complete recovery.

Kelsey‡ records the case of a man aged twenty-four born with an imperforate anus. A few days after birth an opening had been made in the perineum. There had always been free communication between the bladder and rectum, by which urine escaped per rectum and feces per urethram. He had occasionally gone three months without an alvine evacuation, when a large amount of feces would be passed at one time. There was present no sphincter ani muscle. When seen by Kelsey it took two men and two nurses (the patient being under ether forty-five minutes) to break up and remove the accumulated fecal mass. There was no corpus spongiosum for about one and a half inches in front of the triangular ligament, its place being occupied by a thin membrane separating the urethra from the rectum. There was a communication one-third of an inch in diameter between the rectum and the urethra, at which point the membrane was absent. No descending colon was detected at the usual site, but there was observed a large muscular pouch which felt like an enormous stomach. At a point which would mark the end of the transverse and beginning of the descending colon an artificial anus was established, with the usual sput under the gut through the mesentery.

Scott* records the case of a child aged twenty-two hours. There was a slight elevation with a median furrow which indicated the site of the anus, but there was no depression. The abdomen was greatly distended. A median incision extending upward and backward to a depth of one inch was made at the normal anal site without locating the bowel. When the child cried a bulging was noted, and further dissection enabled the operator to grasp the cul-de-sac, which was freed, pulled down,

§*Medical Record.*
‡*Ibid.*
**British Medical Journal.*

and opened on its posterior aspect. Escape of meconium then took place through the opening. The gut was sutured to the margin of the skin incision.

Kirby† saw an infant three days old who had not passed any fecal matter. The abdomen was markedly distended and the child had refused to nurse. Inspection showed an apparently normal anus with a membranous diaphragm (atresia), but there was no bulging to indicate the presence of meconium above. The membrane was divided by a crucial incision, and the finger readily passed into the lower rectum, which was thoroughly dilated, but no meconium came away. Further exploration revealed that the canal terminated in a blind pouch. Palpation failed to disclose the rectal end of the pouch at a distance of three and a half inches, and it was not thought proper to subject the child to the dangers of extensive resection of the sacrum or dissection of the perineum. As a last resort a Maydl's colostomy was performed, and after much difficulty the colon was located (in front of the left kidney) and stitched to the abdominal incision. The colon was opened and a large quantity of inspissated meconium removed, but the child survived only twelve hours. Post-mortem was refused.

Kirby* cites the following rules for consideration in the general treatment of these cases:

1. An operation should always be performed, and performed without delay.

2. If there be any chance of establishing an opening at the normal site of the anus, the surgeon should at first direct his attention to this procedure.

3. The use of a trocar as an aid in finding the rectal pouch before or after incision through the perineum is not sanctioned by modern surgical authority.

4. The results of attempts to establish an outlet for an imperforate rectum through the perineum are not favorable as regards the production of a useful anus.

5. In case of failure to establish a new anus in the anal region, colostomy should at once be performed.

6. In the formation of an artificial anus the left groin is the best site for the operation.

7. Attempts at establishing an anus in the anal region after a colostomy are attended with great danger, and are generally unsuccessful.

†*Pediatrics.*
**Loc. cit.*

Gibbon* refers to a female child who had an imperforate anus. Incision was made in the median line and the rectum located about an inch from the skin. Pressure upon the lower end of the pouch caused fecal matter to escape into the vagina through a small aperture. The incision was enlarged, the lower end of the bowel dissected out of the vagina and brought down into normal position. The child recovered.

Jopson† saw a counterpart of the case cited by Gibbon, a female child whose rectum opened into the vagina. A similar plan of treatment resulted in complete recovery with good rectal function. An example of a not dissimilar malformation was related by Allen.

Hoban§ saw a child whose rectum ended in a pouch half an inch above the anus. Operative measures were refused for three weeks. Posterior colotomy then disclosed the fact that the bowel was imperforate. This wound was closed and an inguinal colostomy performed. Feces escaped, but the child died the third day thereafter.

The treatment of anal and rectal vices of conformation, such as referred to in the foregoing, is primarily and essentially surgical in character, and the most rational procedures indicated are more or less fully outlined in the excerpts of cases presented.

The mortality without surgical intervention is practically one hundred per cent, although cases are recorded where female patients have lived many years without an anus, the alvine dejections being voided per vaginam through the medium of a recto-vaginal fistula. In the male, however, where the rectum communicates with the bladder or urethra, in no instance has the patient long survived without surgical aid.

It must not be forgotten that many of these little patients quickly succumb to marasmus or other intercurrent malady even after requisite operative procedures have been successfully executed; thus out of one hundred cases collected by Cripps sixty were said to have been almost immediately fatal, and it is presumed all of these were subjected to operation.

It may be stated as a general working rule, to which, however, there are many exceptions, that if the malformation be simply one of imperforate anus, and if the patient be seen and operated upon early according to modern surgical teaching, recovery with good function may reasonably be expected in the majority of instances.

**Pediatrics.*
†Ibid.
§Ibid.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

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Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

THE BENEFICENCE OF MORBID PROCESSES.

That disease contains within itself its own remedy is a conviction which has been formulated in one form or other by medical sages from Hippocrates to Behring. Sir Frederick Treves, in an address recently delivered before the Edinburgh Philosophical Society, gave renewed life to this conviction by contending that for all practical purposes disease was purely and simply nature's effort to rid herself of invading bacteria or other injurious agents. He said that the prevailing idea of disease was of a something that was woful and malignant, evil in origin, evil in intent, evil in effect. The popular view claimed that disease was a calamity, that its end was destruction, and that it was purposeless except in the direction of doing harm. Popular terms bore testimony to the prevalence of that belief. Man was said to be struck down by disease as by an avenging angel. It seized upon him as did a roaring lion. It consumed him as did a fire. The attitude of the medical man toward disease was that of an opponent to deadly influences. He had to combat an enemy to mankind, whose every movement was dark and malicious. There was no symptom of disease that was not believed to be ominous, and as such must be stamped out with relentless determination. If the patient were sick the sickness must be stayed, if he coughed the cough must cease, if he failed to take food he must be made to eat; and why? Because these were manifestations of disease, and therefore of ill intent and to be banished. He hoped that there was nothing preternatural in disease, that its phenomena or symptoms were marked by a purpose, and that that purpose was beneficent. Disease was one of the good gifts, for its motive was benevolent and protective. He

could not express that more precisely than by saying that if it were not for "disease" the human race would soon be extinct.

These propositions, all more or less self-evident to the medical man, could be demonstrated by numerous examples. For instance, a wound and supervening inflammation was a process of cure to be imitated rather than hindered. Peritonitis, which had always been spoken of as the operating surgeon's deadliest enemy, was in reality his best friend. The general mortality of the common disease known as appendicitis was low. This fortunate circumstance was due to peritonitis, for without that much-abused ally every example of the disorder would be fatal. Another instance given was that of the common cold, which was no doubt a so-called bacterial disease. According to popular medicine the phenomena constituting the disease were purposeless, profitless, and wantonly distressful, so that the victim demanded from the physician a means for stamping the trouble out. These symptoms, however, were in the main the manifestations of a process of cure, and were so far benevolent that without them a common cold might be a fatal malady. The catarrh, the persistent sneezing, were practical means of dislodging the bacteria from the nasal passages, while the cough removed them from the windpipe. The whole of the manifestations of tuberculosis were likewise expressions of an unflagging effort on the part of the body to oppose the progress of an invading bacterium. There were, unfortunately, a large series of disorders whose secrets had not yet been fathomed. If it were claimed that they afforded exceptions to the theory advanced, he was content to wait until the exact nature of those affections was made manifest.

One could not fail, however, to be met with the assertion that at least the machinations of cancer had nothing in them that was good. To that he had at present no answer. What constituted malignant disease was known to no man, and there was little profit in being dogmatic about the unknown. It would seem that cancer reproduced under inopportune circumstances the type of exuberant growth which was normal and opportune when the structures of the body were being formed, that it was a strange resuscitation in the declining body of a process which was normal in the young. What was the purpose of this out-of-place activity? No one could tell in the absence of any knowledge. It was in conformity with custom to consider it to be malign in intention. If he were compelled to add to the list of pure surmises as to the possible lines on which a remedy of

cancer might be expected, he would point out that during the period of development in childhood there were certain glands in an active state which would appear in some way to control, limit, and modify a process of production which might without such control run riot. It was noteworthy that one such gland—the thymus—wasted and vanished after the period of greatest bodily activity was over, and it was impossible not to wonder whether the introduction of the active principle of such a gland in a case of cancer would exert an influence late in life which it seemed to be intended to exert when growth was alert in the young. Thymus extract had been largely tried in medicine, but it did not appear that any active principle had been isolated from the gland and used.

Dr. Treves doubtless by what he said, and said so well, raised doubts in the minds of many whether nature were so ill intended in her designs as some would have us believe.

EDITORIAL NOTES.

Result of Sanitarium Treatment of Tuberculosis in Germany.

The value of sanitarium treatment of pulmonary tuberculosis is well shown by a recent report of the various "Heilstatten" erected in connection with the German imperial workingmen's insurance. The number of patients was 3374 in 1894, and 16,489 in 1902, who were treated at an expense of $250,000 and $100,000, respectively. The antituberculosis movement is at present carried on in Germany principally by three societies, viz.: (1) Deutsches Zentralcomite sur Errichtung von Heilstatten fur Lungenkranke; (2) Berlin-Brandenburger Heilstatten für Lungenkranke; and (3) Volks-heilstattenverein vom Roten Kreuz, Heilstatte Grabowsee. In 1904 there existed in Germany 27 private sanatoriums and 71 "Heilstatten" for tuberculous patients, the latter institutions providing 5600 beds in all. According to the Imperial Board of Health (Kaiserliches Gesundheitsamt) at Berlin the average results for the years 1896 to 1901 were as follows: Of 100 patients there were at the end of the treatment 67.3 per cent fully able to resume their old occupations, 7.1 per cent fully able to take up another vocation, 14.6 per cent partly able to work, and 11 per cent permanently incapacitated from work. That is to say, 87.7 per cent

were dismissed as either cured or convalescent, 8.8 per cent as not improved, 3.1 per cent had become worse, and 0.5 per cent had died.

Such results could as easily be obtained in this country if the proper facilities were at hand.

Foreign Bodies Removed from the Stomach.

From time to time reports are seen in medical journals of the removal of foreign bodies from the human stomach, and it is often a matter of wonder how nature will tolerate as much as she does. A most remarkable instance of this kind is reported in a recent number of the *Practitioner*. The patient when first seen had a painful swelling a little above and to the right of the umbilicus. This was apparently of an inflammatory nature, and there was fever. The tumor increased in size day by day; fluctuation appeared, and hence an exploration was undertaken. As the patient had confessed to swallowing foreign substances with suicidal intent this was thought to be the probable cause of the formation. After making the incision into the stomach a vast collection of small articles were removed. There were found hairpins, safety-pins, nails, screws, tacks, pins, pieces of glass and chalk, coins, and other articles too numerous to mention. The stomach walls were found very thick and vascular. During all the weeks the woman had been swallowing these foreign bodies she had eaten her accustomed amount of food and gone about her regular household duties. She made a good recovery after the operation.

The Medical News Absorbed.

The announcement is made by the A. R. Elliott Publishing Company that they have purchased the *Medical News* and will consolidate it with the *New York Medical Journal*. Since 1843 the *Medical News* has occupied a foremost position in the ranks of medical journalism, and it is with regret we view its passing, for no journal in the country has been edited in a more able manner than this, and its pages have always contained material of a high class.

ITEMS AND NOTES.

Robert Koch has returned to Berlin after nearly a year spent in scientific research in the tropics.

The University of Illinois has conferred the degree of Doctor of Science on Dr. John B. Murphy, of Chicago.

Sir Halliday Croom has been appointed to succeed Professor Simpson as teacher of obstetrics in Edinburgh University.

The United States Public Health and Marine Hospital Service reports two deaths from plague at Honolulu October 30.

The death of Prof. Albert von Kolliker occurred at Würzburg on November 3. The famous histologist was in his ninetieth year.

The amount collected in Denmark for the erection of a memorial to the late Prof. Niels Finsen is said to be 100,000 crowns.

Sir Frederick Treves has agreed to be nominated on non-political and academic grounds for the Lord Rectorship of Aberdeen University.

Surgeon-General Rixey, of the United States Navy, states that women nurses should be provided for the navy as well as for the army.

Professor Chantemesse, in a recent lecture at the Academy of Medicine, said that he found flies to be the greatest disseminators of cholera.

An Austrian Society for the Repression of Quackery was formally constituted at a meeting held in the rooms of the Medical Society of Vienna on November 11.

Buenos Ayres reports an outbreak, or rather a recrudescence, of bubonic plague in Choya, and that during the past few days there were nine new cases reported.

The first international congress of the gouttes de lait, organized by Dr. Variot, physician to the Sick Children's Hospital, and by Dr. Dufour (Fecamp), was recently held at the Pasteur Institute in Paris.

THE honorary degree of LL.D. has been conferred by Bucknell University of Lewisburg, Pa., upon Medical Inspector Franklin Bache Stephenson, of the United States Navy.

A DEPARTMENT of military hygiene will be established at the military academy at West Point in accordance with the recommendation of the academic board and the superintendent of the institution.

GEORGE W. COTT, a wealthy civil engineer, recently died in New York, having bequeathed his body to a medical college "to be used in such manner as will be most conducive to the advancement of medical and surgical knowledge." The body was accordingly delivered to the Bellevue Medical College.

THE French Academy of Moral and Political Sciences has decided to award the Francois-Joseph Audiffred prize, which is given in recompense of "the most beautiful and greatest acts of self-devotion of whatever kind they may be," to Professor Calmette, director of the Pasteur Institute of Lille. The prize is of the value of $3000.

FROM Sofia comes the news that the confederation of Bulgarian professors has fixed in its budget for the current year the sum of 2000 francs, being the first instalment of a sum necessary for the construction of a sanatorium for the professors and teachers suffering from tuberculosis. The Bulgarian government has approved of the plan, and has granted the first subvention of 5900 francs.

A PHILANTHROPIC SOCIETY to be called the Infants' League is being organized in New York. The administration is to be entirely in the hands of women. The object of the League is to provide for the care of infants whose mothers are too poor to supply what is required. Women leaving the maternity and other hospitals will be furnished free with a sanitary crib, linen, bedclothing, nursing bottles, and a supply of milk for the infants.

THE sixth Italian Congress of Criminal Anthropology will be held at Turin in 1906, the opening meeting being fixed for April 26. There will be an exhibition in connection with the congress. Advantage will be taken of the occasion by the friends and admirers of Professor Lombroso to organize a public manifestation in his honor. A committee has been appointed for the purpose, of which Professor Pagliani, president of the Medical Faculty of the University of Turin, is chairman.

THE French Surgical Association will hold its nineteenth congress in Paris in 1907 under the presidency of Professor Monprofit, of Angers. The following questions are proposed for discussion: (1) The surgery of the large venous trunks, to be introduced by MM. Lejars and Morestin; (2) ectopia of the testicle and its complications, to be introduced by MM. Souligaux and Villard; (3) routes and means of access into the thorax from an operative point of view, to be introduced by MM. Willems and Loison.

AMONG the members of the medical profession in foreign countries who have recently died are Dr. E. Neniere, senior surgeon to the National Institute for the Deaf and Dumb in Paris; Dr. Jules Guyot, formerly surgeon to the Paris hospitals; Dr. Akos Puky, senior surgeon to the Red Cross Hospital, Budapest, and lecturer on surgery in the University of that city; Dr. R. A. Ruge, a prominent practitioner of Berlin and a member of the Town Council of that city, aged seventy-one; Dr. Florschutz, for a long time physician-in-ordinary to Dukes Ernest and Alfred of Saxe-Coburg, aged ninety-two.

THE chief medical officer of the Moscow Military Hospital writes to the *Novoe Vremya,* saying that the said hospital is about to complete the second century of its existence. It was the first government hospital in Russia, besides which it was the first and for a long time remained the only medical school in Russia. It was founded in the time of Peter the Great, and was formally opened on December 4, 1707. Its history is at present being written. The object of the letter is to appeal to all who may have documents or information of use to the compilers of the history to communicate them for the purpose stated.

THE Statistical Bureau of the kingdom of Saxony has recently published figures which show the professional earnings of medical practitioners in that part of Germany. Of a total number of 1568 practitioners in 1903 there were 90 with a professional income not exceeding $400; 165 whose earnings did not exceed $600; 290 did not make more than $1015; and 320 not more than $1500. Incomes ranging between that amount and $5000 were earned by 611; the number of those whose professional income exceeded $5000 was 92. The average age of practitioners whose income was from $600 to $1500 was between thirty and forty, while that of most of those whose earnings exceeded $1500 was between forty and fifty.

The deaths of the following eminent foreign medical men are announced: Dr. Hess, of Mayence, a well known ophthalmic surgeon, at the age of seventy-four years. Dr. Emil Burckhardt, professor of surgery in the University of Basle, at the age of fifty-two years; his Atlas of Cystoscopy is well known in all countries. Dr. Gregorio N. Chaves, professor of clinical medicine in the University of Buenos Ayres. Dr. Kostin, lecturer on physiology in the University of Odessa. Dr. Hermann Munster, extraordinary professor of midwifery and gynecology in the University of Königsberg. Dr. A. Cochez, professor of clinical medicine in the University of Algeria.

M. L. Morel recently exhibited before the Anatomical Society of Paris a large appendix measuring 18 centimeters, or a little over 7 inches; its caliber was double the average. The most important feature about the specimen was the fact that it belonged to a man sixty-five years of age. Giant appendices, Morel observed, are chiefly met with in children. He himself has exhibited one 21 centimeters (under 8½ inches) long, removed from a boy aged ten. Gegenbauer described an appendix 20 centimeters, or over 7¾ inches long, and Cruveilhier another 22 centimeters, or over 8½ inches long. But the record appendix, according to Morel, was reported by Lannelongue. It measured 23 centimeters, or nearly 9 inches in length.

Dr. W. F. Drewery, superintendent of the Central State Hospital at Petersburg, Virginia, gives some figures showing the increase of insanity among the negro population. The number of patients sent to the hospital during the year was 170 more than the previous year, showing an increase of about 50 per cent. The number in the hospital was 1449, or 115 greater than the year before. The smallest number under care at any one time was 1101, and the largest 1305. The number present at the end of the year was 1181, or 80 over the previous year. The growing prevalence of mental diseases among negroes is ascribed by Dr. Drewery to physical conditions and degeneracy induced by indolent, unhygienic, and immoral modes of life, as well as to the influence of heredity, rather than to mental stress or overwork.

New York City is preparing, says an eastern exchange, to spend $2,000,000 in a city sanitarium for consumptives. Last spring $200,000 was appropriated for beginning this work. The site is on Staten Island, overlooking the Narrows and the lower bay. The spot is said to be the highest on the Atlantic coast

between Maine and the Gulf of Mexico. The architect is Mr. Raymond Almirall. The ward buildings will be in the form of an arc; the windows are all to extend to the floor and open on verandas. The roof is to be treated as a roof garden, one portion being enclosed in glass. There are to be two buildings devoted exclusively to the care of advanced cases in single rooms. Patients in all stages of the disease will be admitted. The site selected is on city property, and the $200,000 already available will, it is estimated, provide accommodations for at least 100 patients.

THE policy adopted by the authorities in France, Germany, and this country, by which there is an interchange of the services of professors of high rank in the leading universities, has been continued, says an exchange, by the sending of Prof. Wilhelm Otswald, of Leipsic, to this country. He is the recognized pioneer in physical chemistry, preceding van t'Hoff and Arrhenius in his researches, and is now giving a course of lectures at Harvard University on physical chemistry. A banquet in his honor was held November 11 in Brooklyn, given by the physical science department of the Brooklyn Institute. The leading chemists in the universities east of the Alleghanies have been invited, and addresses have been promised by the president of Johns Hopkins, Prof. H. W. Wiley, and F. W. Clark, both of Washington, and other chemists from Harvard and elsewhere. A large number of German-Americans who are interested in the chemical industries will also be present.

DR. WEISBROD, a physician at Dusseldorf, Germany, conducts an establishment for the treatment of cutaneous and venereal diseases, says an exchange. He is assisted in his practice by an undergraduate named Rossler, who has been for years in his employ. Weisbrod has been in the habit of entrusting his patients to Rossler, giving him blank prescriptions, which the latter filled out for the individual case. As this substitution was not known to the patients, they supposed they were being treated by Dr. Weisbrod instead of by the assistant. When some of the patients learned the facts they accused Dr. Weisbrod of deception and carried the case into the courts. The claim was sustained by the legal proceedings, which imposed two months' imprisonment on Weisbrod and one month's on Rossler. The judge emphasized the deception practiced, and especially the point that in venereal diseases such a manner of conducting medical practice might easily do great harm.

NEW PUBLICATIONS.

DIABETES.

Another number of von Noorden's series of treatises, devoted to the study of the disorders of metabolism and nutrition, will be welcomed by those who have recognized the high standard of excellence achieved by previous volumes. The present number is devoted to a study of diabetes, and contains a review of the whole subject from its pathological and clinical aspects. The book is one which will be read with intense interest, and fully maintains the record for excellence which has been demonstrated in the past.

Clinical Treatises on the Pathology and Therapy of the Disorders of Metabolism and Nutrition. By Carl von Noorden. Part VII, Diabetes Mellitus: Its Pathological Chemistry and Treatment. E. B. Treat & Co., New York.

BIOGRAPHIC CLINICS.

Dr. Gould's third volume dealing with the individual effects of errors of refraction is full of interest. The clinical subjects this time are J. A. Symonds and Taine. The larger part of the volume contains noteworthy chapters on the same theme. Those dealing with the optic and ocular factors in etiology of scoliosis in schoolchildren and the visual function as the cause of slanted handwriting are full of suggestiveness. It is needless to say that that which the author offers his readers this time is not less interesting than usual.

Biographic Clinics. Volume III, Essays Concerning the Influence of the Visual Function upon the Health of Patients. By Geo. M. Gould, M.D. P. Blakiston's Son & Co., Philadelphia.

DISSECTING MANUAL.

This is an admirable manual designed to accompany Cunningham's Anatomy. It has the conciseness and simplicity of arrangement which are such essential features in manuals of this kind.

Dissecting Manual Based on Cunningham's Anatomy. By W. H. Rockwell, Jr., M.D. William Wood & Co., New York.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Local Anesthesia in the Radical Cure of Hernia.

John A. Bodine (*Medical Record,* Oct. 21, 1905) has operated on 284 patients with 300 hernias under local anesthesia without a death or a suppurating wound. By means of Schleich's infiltration the amount of cocaine is reduced to a minimum and limited to a small area, producing acute local anemia, effectually retaining the fluid in one spot. Cocainization of a sensory nerve trunk, abolishing pain sensation in the region supplied by it, renders it possible to operate for hernia by its use. The operative area is superficial and the region restricted by the anatomy of the parts. In strangulated hernia local anesthesia does not increase the shock, while general anesthesia is often too great a load to be borne. The local anesthetic permits of the application of hot towels to a possibly gangrenous intestine for some time, in order to determine whether it will react. The operation does not give rise to the danger of injury to the nerve fibers. The danger to a line of deep sutures from vomiting is done away with. There is no danger of cocaine poisoning with the small dose necessary—that is, one-half grain injected intermittently throughout an hour. Morphine given after the operation would act as an antidote were poisoning possible.

The operation is more thorough because of the absence of haste and the lack of need to save the patient pain. There are no evidences of pain during the operation. The cocaine solution should be made fresh. The solution is one-fifth of one per cent for infiltration of skin and nerve trunks, and for subdermic infiltration half this strength is used. The line of skin incision should be infiltrated throughout its extent sufficiently tightly to maintain the local anesthesia for an hour. The aponeurosis of the external oblique requires no infiltration. It should be incised over the situation of the underlying ring; the ilioinguinal nerve will be exposed by retracting the flaps, and its trunk is then cocainized by a few drops of the solution. The incision may be carried painlessly into the external ring and the flaps reflected to expose Poupart's ligament and the conjoined tendon. The iliohypogastric, if found, may now be cocainized. The margins of the internal ring are infiltrated. A line of infiltration along

the long axis of hernial protrusion permits a clear cut through the hernial sac and coverings. The neck of the sac is infiltrated, dissected away from the underlying cord, ligated, and amputated. The genitocrural nerve is cocainized. The sac is dissected away from the cord and the operation completed. Operation on the female is easier than on the male.

Infection of the Knee-joint.

C. P. Flint (*Annals of Surgery,* October, 1905) says that non-penetrating injuries, penetrating injuries traumatic or operative, and knees independent of any injury occurring in the course of some other infectious process or not, may present signs and symptoms not to be distinguished in the absence of bacteriologic examination from the cardinal signs and symptoms of infection. Certain of these cases are undoubtedly infected, but the data at command do not allow these to be distinguished from such as may be due to trauma and those possibly due to toxins secondary to infection elsewhere. The knee-joint has certain germicidal powers. One out of every twenty-two operations on clean knees becomes sufficiently infected to demand operation (4.6 per cent). One out of every nine operations for recent (five days) traumatic non-penetrating injury becomes sufficiently infected to demand operation (11 per cent). One out of every thirty-five operations for pathologic conditions other than traumatic injuries more than five days old becomes sufficiently infected to demand operation and drainage of the joint (2.9 per cent). One out of every twenty-two operations for simple fracture of the patella becomes sufficiently infected to demand operation (4.6 per cent). One out of every seventy-one operations for fracture of the patella done after the fifth day becomes sufficiently infected to make operation a necessity (1.2 per cent). One out of every nine or ten operations for fracture of the patella done before the fifth day becomes sufficiently infected to demand operation (10.5 per cent). Three out of every five cases of penetrating injury to the knee-joint become sufficiently infected to require operation (60 per cent). Of compound fractures of the patella, seven out of nine become sufficiently infected to demand operation (78 per cent). Certain knees subjected to non-penetrating injury and not operated on become sufficiently injected to require operation (10 per cent of the operative septic cases). Certain knees become sufficiently infected to require operation where no history of trauma or other evident septic

focus in the body exists (13 per cent of the operative septic cases). Certain knees become sufficiently infected to require opening and draining the joint in the course of some evident focus of infection elsewhere in the body (11 per cent of the operative septic cases).

The Treatment of Non-malignant Strictures of the Rectum.

Howard A. Kelly (*American Medicine,* Sept. 16, 1905) says that painstaking prophylaxis should guide us in the treatment of rectal strictures situated in the distal portion of the bowel. Careful investigation should be made in all cases of so-called diarrhea and dysentery. The treatments consist in rest, diet, keeping the upper bowel emptied, cleansing solutions and applications, healing applications and packs. A stricture of moderate caliber may be cured by dilatation with bougies; by the elastic pressure of a rubber bag, distended by air in a uniform manner by a silk covering (Sweetman's plan); and by digital distention and massage. If a contracting bowel is watched and treated, the patient may go on for a long time, for years even, in great comfort, though the disease is not cured. Resection of the bowel may be practiced even when the disease extends over an area as long as 20 centimeters. A posterior incision with the removal of the coccyx and sometimes of the last sacral vertebras, with the preservation of the anal sphincter and ampulla when possible and an end-to-end anastomosis of the bowel, is the best procedure. It is sometimes worth while in the attempt to save the bowel, when the local process persists in advancing, to make an artificial anus completely diverting the fecal current. The bowel may then heal and the extensive surrounding inflammation undergo resolution, when after some months or a year or more, and generally after a successful resection, the artificial anus may be closed. In a high grade of tuberculous or syphilitic stricture, when an extensive area is involved, it is often best to make an artificial anus and extirpate the diseased bowel. The writer prefers to do this by amputating the bowel above first and ligating such hemorrhoidal vessels of the lower end as are within reach, and then to complete the extirpation from below by an incision from sacrum to anus. Advanced tuberculosis always demands extirpation, and syphilis calls, of course, for persistent specific treatment in addition to whatever local means may be employed.

A Supernumerary Tooth in the Nose.

O. Kahler (*Lancet,* Oct. 14, 1905) some time ago had under his care a man aged twenty-nine years, who complained of difficulty in breathing through the nose. Several years ago the patient had a plastic operation for a defect of the lower part of the nose performed at a surgical clinic. It appeared that he had had a nasal gumma when a child, and this had destroyed a great part of his nose, which now presented the saddle shape seen in syphilitic subjects. Anterior rhinoscopy revealed a total absence of the septum nasi and the inferior turbinated bones on both sides. A hard white substance was seen lying embedded in the floor of the nasal cavity, about three-quarters of an inch into the cavity. After careful cleansing it was recognized to be the crown of a tooth. Examination of the alveolar processes showed that all sixteen teeth, or at least their broken and carious roots, were present, so that the nasal tooth was a supernumerary one. The extraction of this tooth was very difficult. Tooth forceps could not be used on account of the narrowness of the introitus nasi, which was rendered still more narrow and rigid by the cicatricial tissue. Dr. Kahler succeeded in loosening it by means of an elevator, but the patient suddenly jerked his head, and the tooth disappeared into the esophagus and stomach, but was passed from the bowels after the lapse of three days, during which plenty of potatoes and bread had been eaten. It was found to be most likely a canine tooth. In nearly all the recorded cases such anomalous teeth have been associated with congenital syphilis, which perhaps by disturbing the normal ossification favors displacement of the dental germs. This dental anomaly was first recognized by the famous poet Goethe, who was also a very observant man of science, and who mentioned a case of the kind in his "Journey to Switzerland in 1797," when he was studying the premaxilla.

Single Kidney: Ureter Passing to Opposite Side.

A singular anomaly has been reported by D. Horand (*British Medical Journal,* Sept. 16, 1905) in the necropsy of an infant born at the seventh month, which had died of athrepsia when under four months of age. He found that the right kidney was entirely wanting, nor was there any trace of a right renal artery or vein. The left kidney was in normal position, hypertrophied and lobulated. The left renal vessels showed no anomaly. The pelvis of this single kidney passed into a ureter

of large caliber, which ran downward toward the right, passing in front of the left common iliac artery, much posterior to the left sacroiliac synchondrosis, and sweeping around the inner wall of the bony pelvis on the right side internal to the vessels. Finally it passed through the walls of the bladder opening on the right side at the normal level of the right ureteral orifice. A left orifice was detected; it was permeable and passed into a rudimentary left ureter. This canal ended in a thin filament at the point on the brim of the pelvis where the normal left ureter passes downward; it was totally disconnected from the left kidney. The left vesicula seminalis was absent, but the left vas epididymis and testis showed no abnormality. The left suprarenal capsule was well developed; the right was detected greatly atrophied and flattened against the right side of the vertebral column; it possessed a small capsular artery and vein. Horand observes that the surgeon might be badly puzzled in examining a patient with renal disease if an anomaly of this class existed. The cystoscope would show urine issuing from the right ureteral orifice, whilst the left, apparently normal, gave passage to none. The symptoms might justify nephrectomy, but in such a case the surgeon might remove the left kidney under the false impression that its fellow existed and was normal.

MEDICINE.

Modern Problems of Nutrition.

Prof. von Noorden (*Journal of the American Medical Association,* Oct. 28, 1905) reviews the history of several of the problems of metabolism in recent years. He states that a number of problems of interest alike to the physician and to the pathologist were left unsolved during the earlier periods of quantitative investigation, and that it is only now that, thanks to the better technique of recent times, exact methods are available for their estimation. He takes up the metabolism of energy, and states that the daily food must have certain caloric values if the weight of the body shall neither increase nor diminish. With the increased muscular work the amount of energy consumed increases in proportion. Children require a relatively high, and old people a relatively low, exchange of energy. Von Noorden emphasizes the necessity for further extended observations of the personal equation in this matter in order to provide a clear "mathematical" insight into the condition now designated

by the term individuality. He referred to the experiments of Rubner and Pfluger, which tend to show that when the food contains an excessive quantity of proteids the energy exchange follows the administration of thyroid gland substance. He discusses metabolism energy in people who are run down by chronic disease or by insufficient nourishment, and the energy exchange in fevers and in diabetes mellitus. He says that the exact form in which nitrogen is retained in the body is still entirely unknown, and that a knowledge of this would throw some light on the changes which molecules of albumin undergo in the body. He reviews some of the work which has been done recently in physiologic chemistry, referring especially to the amino acids and to glycocol. He concludes by stating that great problems still await solution, and that medical science looks to America for many enthusiastic workers in this field.

The Effect of Raw Meat on Nitrogen Metabolism in Tuberculous and Normal Individuals.

J. J. Galbraith (*Lancet,* Oct. 28, 1905) draws the following conclusions from his investigations:

(*a*) Effect on metabolism: (1) When raw meat was taken the absorption was diminished by from 1 to 2 per cent, owing to the appearance of indigestible collagen in the feces. (2) There was a marked increase in nitrogen retention in spite of the diminution in absorption. (3) On reverting to cooked meat (the collagen of which is converted into gelatin) the nitrogen of the feces diminished, and the percentage of absorption was thereby raised by from 1 to 3 per cent above the percentage observed in the first cooked meat period owing to improvement in intestinal chemistry. (4) Superalimentation (which was tried in one case) with raw meat and beef juice did not diminish the percentage absorption. The substitution of a similar quantity of cooked proteid produced immediate sickness.

(*b*) Effect on the blood: (1) A great increase in hemoglobin (falling on resuming the cooked diet). (2) A rise in the total leucocytes of from 3000 to 10,000 per cubic millimeter, fasting. (3) An exaggeration of the digestive leucocytosis, the usual increase being doubled or trebled. The rise in the total leucocytes was not observed in normal individuals; otherwise the results were identical. The reaction might be induced to a much slighter extent by increasing the proportion of cooked proteid in the diet. The specific action of raw meat was exerted on the mechan-

ism of nitrogen retention, reducing the combination of the absorbed nitrogen by promoting the vitalization of circulating proteid, by means of the intervention of a linking body probably secreted by the functionally active cells of the digestive leucocytosis.

The Relations Between Climate and Health.

William S. Washburn (*American Journal of the Medical Sciences,* September, 1905) in his discussion of the Philippine Archipelago presents the following conclusions: With respect to the principal climatological factors, temperature, humidity, and atmospheric movements, the climate of these islands is not extreme, as it is distinctly insular in character, the greater part of the land area being not far distant from the ocean. There are other modifying influences which obtain in parts of the archipelago, such as general oceanic and local interisland currents, prevailing winds, elevation, the state of cultivation and drainage of the soil, and the presence of forests and other plant life. Excluding localities in the tropics characterized by excessive heat, high relative humidity, or unhealthful soil conditions, acclimation or physiological adaptation of the white man to tropical environment is possible. Failures of the white race to live in the tropics and maintain health, excluding localities indicated in the second conclusion, appear to have been due principally to non-observance of the rules of personal, domestic, and public hygiene. As a rule, Americans appear to become acclimated in the Philippines during the third year of residence. With sanitary surroundings and by observing the rules of personal and domestic hygiene, residence of Americans in the Philippine Islands appears to be attended with as little danger of disease and death as residence in the United States under similar conditions.

Hygiene and Intellectual Education of Girls.

James Carmichael (*Scottish Medical and Surgical Journal,* November, 1905) says that the education of girls should include home as well as school training. This can only be attained if the mothers in their girlhood have learned at school the elementary laws of health, which they will carry out during motherhood. To insure this, evening lectures or classes should be instituted for mothers, in connection with board and other schools.

Hygienic training of girls should be considered of first

importance; intellectual training is of secondary consequence, and strictly regulated in accordance with the age and physical health of the pupils.

The majority of girls should not have more than three or four hours intellectual work during each day, and for the whole period of school life. The minority, or those girls who aspire to the higher education, should not commence such studies before the age of sixteen at soonest.

All girls should be instructed during the last year of their school curriculum in elementary physiology and hygiene, in order that when they become wives and mothers they may have an intelligent appreciation of the proper principles necessary for the rearing of healthy children.

Diaphragmatic Grooves on the Liver.

Robert O. Moody (*Johns Hopkins Hospital Bulletin,* November, 1905) says that diaphragmatic grooves are found in the fetus as early as seven months in infancy, in youth, and in old age.

The grooves may or may not contain folds of the diaphragm; the latter are sometimes permanent, and sometimes disappear when the liver and diaphragm are removed from the body.

The comparatively small number of cases recorded does not justify definite generalizations concerning the frequency of these grooves and the age and sex of subjects in which they are most often found.

Many factors take part in the production of the grooves, some of which may be congenital conditions of the diaphragm, difficult respiration, constriction of the thorax and abdomen by clothing, severe diaphragmatic pleurisy, localized peritonitis, and a disproportionate ratio between the size of the liver and of the abdominal cavity.

Hyperchlorhydria.

J. A. Lichty (*American Medicine,* Oct. 28, 1905) asserts that about one-third to one-half the patients suffering from digestive disturbance have hyperacidity. Not all cases of hyperacidity are necessarily of the class designated hyperchlorhydria. Patients with hyperchlorhydria are usually neurotic, and these cases do not yield rapidly to treatment. They differ in this respect from cases of chronic gastritis, which may have a hyperacidity in the early

stage of the disease but later develop a subacidity. The diagnosis of hyperchlorhydria should be made only after chronic gastritis, ulcer of the stomach, or gall-stone has been absolutely excluded. It is not possible to make an absolute diagnosis without examining the stomach contents. This must often be done several times. In considering the treatment it is necessary to recognize at least two classes of patients. One class includes those advanced cases in which there is usually a splanchnoptosis, a dilated stomach, emaciation, and prominent nervous symptoms. In these cases an absolute or modified rest treatment is indicated and will accomplish most satisfactory results. The other class includes those early cases in which the patients are still well nourished and have scarcely any symptoms but those referred to the stomach. They are usually relieved without adopting any extreme measures.

Acute Pericarditis Complicating Acute Lobar Pneumonia.

J. A. Chathard (*Bulletin of the Johns Hopkins Hospital,* October, 1905) says that pericarditis developing during the course of an acute lobar pneumonia is a most serious and important complication, occurring more especially in young adults, frequently insidious, latent, and often not recognized during life.

It appears to arise as frequently by a metastatic process as by direct extension.

Treatment is very unsatisfactory and often unavailing, except when fluid is present, in which case it is more surgical than medical.

In all patients with pneumonia a most careful watch should be kept on the heart, as this complication appears to be much more frequent than is generally supposed, and urgent treatment in the early stages may materially reduce a high mortality.

Demonstration of the Spirochaeta Pallida in the Blood of Syphilitics.

Staehl (*Münchener med. Wochenschrift,* No. 31) demonstrated the spirochaeta in the blood of a number of patients with secondary syphilis who had not been treated. He took at least one cubic centimeter of blood either from a vein or the lobe of the ear, and mixed it with 10 volumes of 1-3 per cent acetic acid; he centrifuged and examined the sediment, staining by Giemsa's method. The preparations were allowed to stain sev-

eral hours. In every case one to three specimens were found in every thirty fields. Blood of patients suffering from carcinoma, tuberculosis, etc., showed none of these bodies.

An Oxidizing Ferment as the Cause of Green-colored Stools in Children.

Wernstedt (*Monatschrift für Kinderheilkunde,* No. 5) calls attention to the fact that all green-colored stools contain mucus, and that this mucus is capable of oxidizing guaiacol in the presence of hydrogen peroxide, turning it red; if the stool is previously cooked it loses this property, therefore the oxidizing substance is probably a ferment. Microscopically the red color is not diffuse, but is limited to the globules of mucus, as also the green color is not diffuse but is limited to the mucous droplets.

THERAPEUTICS.

Intravenous Injections of Iodoform in Pulmonary Tuberculosis.

At the recent meeting of the International Congress on Tuberculosis, T. W. Dewar (*Lancet,* Oct. 28, 1905) submitted a paper with the above title. He remarked that owing to the improvement in modern apparatus it is possible to perform several hundred intravenous injections on one patient if such a procedure were necessary. He referred to his former publications on this subject, and said that there are now patients who have remained well after treatment had been suspended for periods of between two and three years. Up to the present he has not had a fatal case, and even in the hopeless cases, as a result of the injections, the disease has been retarded and the symptoms relieved. He anticipated that in early cases he might yet be in a position to claim that iodoform given by this method is almost a specific. He offered several suggestions as to how the drug has such remarkable power: (1) It might act as its own molecule in a germicidal character. (2) If not acting directly as a germicide, as understood in antiseptics, it might excite the micro- and macrophages of Metchnikoff, aiding their phagocytosis. If weak germicidally, it is probably also comparatively harmless to living cells. It might even be beneficial to and absorbable by them, thereby conferring an increased vitality

and fighting power. (3) The iodoform might undergo decomposition either by oxidation or reduction, resulting in the production of nascent formaldehyde (CH_2O) and nascent free iodine. The peculiarity of iodine in the chemistry of organic iodo-substitution bodies is well known, for when treated with hydriodic acid free iodine is liberated and hydrogen takes the place of iodine, thus regenerating the normal hydrogen body. Thus free iodine is capable of producing new organic iodo-substitution compounds with other bodies from which iodine could again be liberated; the iodine is thus alternately combined and free and might be used over and over again. This free iodine might act germicidally at the seat of disease or it might form some organic iodo-substitution compounds, themselves possessed of germicidal qualities, in this instance again augmenting the resisting power of Metchnikoff's macro- and microphages in the phagocytosis. Again, if by either of these processes free iodine is liberated the action of iodine in weak alkaline solutions might take place. It forms iodides and iodates, which, being acidulated, would again liberate free iodine.

Clinical Experiences with Certain Drugs in Heart Disease.

Thos. E. Satterthwaite (*American Medicine,* November, 1905) calls attention to the fact that in the year 1900, according to the last census, as many as 70,000 persons died of heart disease in this country; also that of the nine principal causes of death, heart disease was third on the list in point of frequency, tuberculosis holding the first place and pneumonia the second. And now that apparently successful efforts have been directed against tuberculosis, and pneumonia has been investigated by a commission, heart disease should logically be next attacked. In so far as drugs are concerned he regards suprarenal gland as the most powerful heart stimulant known. As to the dangers from the nitrites and nitrates, about which much has been written, he finds their efforts are always evanescent. Ordinarily in angina, hypertension, and arteriosclerosis they are useful, but if they produce violent pulsation in an arteriosclerotic they should be suspended. For advanced cases of this affection the tetranitrate of erythrol is specially adapted, owing to its prolonged action. But after all iodine in some form or other should be the main reliance. Strychnine is a reliable heart stimulant, but should be used with discretion and in moderate doses; larger

doses produce nervousness and insomnia. It should never be continued more than a couple of weeks at a time. Cactus he finds a good heart regulator, and strophanthus is excellent if prompt action is needed. Digitalis acts best when the arteries are flaccid and just enough given to restore normal tension. If the drug produces too much tension, the work of the heart is unnecessarily increased. In acute endocarditis, the fat heart, fatty degeneration, advanced arteriosclerosis, aortic diseases, and cardiac neurosis digitalis may do serious harm. In deficient or falling compensation digitalis is useful up to the point of producing normal arterial tension, after which its action is harmful, except in so far as it may increase diuresis. Circulatory depressants, such as antimony, veratrum, pulsatilla, and hellebore, are out of date in the treatment of cardiac diseases; but aconite is useful, certainly in cardiac neurosis. There are some drugs in particular the action of which requires further investigation, because we are not sufficiently acquainted with their active principles or modes of action. These are adonis vernalis, erythrophleum, apocynin, and cratægus.

Radium in the Treatment of Rodent Ulcer.

R. Darier (*British Medical Journal,* Oct. 28, 1905) reports a case of rodent ulcer beginning in the ala of the nose, recurring after early removal, and spreading by way of the inner canthus to the lids, which continued to grow in spite of cauterization and other therapeutic measures. He feared lest it should take on a more malignant nature and burrow deeply into the lacrimal apparatus. The patient refused to permit a second operation, so Darier decided to use radium, without much expectation of success. Five milligrammes of radium sulphate were used in daily exposures of half an hour for each part of the diseased surface. In less than three weeks the growth had disappeared, leaving hardly a trace behind. When Darier reported the case a month had passed without recurrence. He quoted another case of his own similar in nature and result to the above, and gave a brief summary of other recently reported cases. Many of the failures may, he thinks, be ascribed to faulty methods of application, by which a large proportion of the radioactivity is wasted, as well as to the use of "impure" radium. The activity of the sample to be used can readily be tested on the operator's forearm by noting how many daily applications are needed to produce the characteristic redness.

Pneumothorax and the Administration of Adrenalin.

At a recent meeting of the Paris Hospitals Medical Society, M. Gaillard (*Lancet*, Oct. 28, 1905) gave an account of a case in which a tuberculous patient was attacked with hemoptysis. No drugs appeared able to stay the hemorrhage, and adrenalin was therefore injected into the apex of the lung. The result was sudden and general pneumothorax of that side, together with arrest of the hemorrhage. A discussion arose as to the mechanism of the action of adrenalin. M. Dufour considered that in the case under review the arrest of the hemorrhage was due to the compression brought about by the pneumothorax. For his own part he had never been able to arrest hemoptysis with adrenalin. M. Lermoyez argued that adrenalin is eventually a vasodilator, but that its first effects are to constrict the vessels, a constriction which lasts a long time. It can therefore be used as a transitory hemostatic. Secondary hemorrhage should always be looked for after the use of adrenalin to arrest bleeding. M. Josué said that this is due to the reaction which always follows the use of a drug for its physiological properties. M. Siredey, however, said that he had obtained excellent results in cases of metrorrhagia with adrenalin, and had never seen any secondary hemorrhage.

The Treatment of Hyperacidity and Hypersecretion of the Stomach.

A. Albu (*American Medicine*, Oct. 28, 1905) asserts that in hyperacidity treatment must be chiefly dietetic, not only in a negative sense by forbidding sour foods, sauces and drinks, spices and other stimulants, alcohol, etc., but in a positive sense by prescribing a very detailed diet. In hypersecretion treatment must consist in limiting the intaking of drinks and liquid foods to a minimum. Solid foods should be taken in the form of broths, single portions of solid food being given in as small quantities as possible at intervals of one to two hours.

Gelatin in Diarrhea.

Dr. Leo (*Therapie der Gegenwart*, No. 9) uses 10 per cent gelatin, to which he adds 1 per cent citric acid and 20 to 30 per cent syrup of saccharated iodine, giving from a teaspoonful to a tablespoonful according to whether the patient is a child or an adult. To prevent too firm a solidification the gelatin is

sterilized for six hours. Children under two years suffering from diarrhea and vomiting were first given a dose of castor oil, and then the gelatin, although better results were obtained in older children and adults. The action of the gelatin is such as to give the mucosa of the intestinal tract a gelatinous coating, which protects it from the irritating ingesta. It is also beneficial in hyperacidity and gastric pain.

GYNECOLOGY AND OBSTETRICS.

Concerning the First Stages of Labor.

William Stevenson (*Scottish Medical and Surgical Journal,* October, 1905) says a prolonged first stage is more frequently due to unfavorable mechanism than to rigidity of the os. The size of the os is not the sole criterion of progress in the first stage. Along with the inner ring must be taken an outer ring, the vaginal attachment; the relative condition as to dilatation of both must be noted. The dilatation of the outer ring is mainly dependent upon the peripheral force, that of the inner ring upon the wedge action. The outer ring may be fully dilated before the inner ring has begun to open; defective dilatation of the outer ring may be the cause of delay in dilatation of the os.

The fetus is the predominant factor throughout labor; the presenting part exerts an influence on the first stage.

A moderate amount of liquor amnii is more favorable than when considerable, relatively to the bulk of the fetus. It is more favorable when the quantity permits of an early combination of direct pressure with the action of the amniotic fluid. An excess, liable to retard progress, begins when the fetal body is entirely surrounded by the waters; and defective action is greater the larger the quantity.

Until the head is born dilatation and propulsion are effected simultaneously by elongation of the fetal ovoid, not by pressure on the breech. Dorsal extension is an important factor in the mechanism. Whatever hinders this action renders the process less facile; this may be an excess of fluid, but also it may be the position of the fetus.

The head is an efficient dilator even in the first stage; but till the outer and inner rings are sufficiently dilated to admit of the head engaging them, there is a decided advantage in retention of the fore-waters. After the os is half-way dilated, unnecessary delay may arise from integrity of the membranes.

THE MEDICAL AGE

VOL. XXIII. DETROIT, DECEMBER 25, 1905. No. 24.

ORIGINAL CONTRIBUTIONS.

REPORT OF A CASE OF MYASTHENIA GRAVIS.

BY J. CHESTON KING, M.D., ATLANTA, GEORGIA.

In presenting a detailed report of a case of this unusual type of disease, which has been under my observation from July, 1904, to January, 1905, I am conscious of the fact that I am dealing with a subject that, as yet, is very narrow in the range of discussion; its pathology is as yet unknown, some contending that it is a change in the muscles, others in the nervous system. All information afforded us to-day in the investigation of this disease by the microscope is of a negative character. No structural change whatever can be found. The human body is the most complex mass of matter in the known world; its composition surpasses the highest powers of chemical analysis; its structures are but dimly seen even with the most perfect microscope. Through circulating blood and a nervous system, every part is within swift communication with all the rest. And it is in this body with all its complexities that the pathologist must study that which is in disorder and unsettled, and hence I wish to report a case that will be food for thought and research. I wish to preface this report by a declaration of my full belief in the trophic influence of nerve force. Any alteration in the nervous force of the anatomy can alter its methods of nutrition without altering the condition of the blood-vessels.

Mary A., aged twenty-eight; occupation, seamstress; admitted November 30, 1903; ill one year; complaint, difficulty in walking and speaking, weakness of arms; duration, one year. *Family history:* Parents are both alive and healthy; two brothers and sisters are alive and strong; the patient is the eldest of the family; no family history of nervous or malignant disease. *Previous history:* Was strong and healthy until onset of present illness. Measles and chickenpox in infancy; influenza

three years ago, severe, two weeks in bed; has been working as a seamstress since she was fifteen years of age; twelve hours a day at work; menstruation started at thirteen years; has been regular, not excessive; has not been anemic. *Present illness:* Following the attack of influenza two years ago she began to find her throat uncomfortable at night, and her tongue as though it was too large for her mouth. Her voice would also tire toward evening, especially when she had talked much, and would then become husky and indistinct. But these troubles were so slight that for the first year she paid no attention to them, but from them has developed her present illness. Directly after the influenza she lost her voice for about a fortnight; during this time that her voice was quite silent she could not be heard, but she could articulate properly. She regained her voice rather suddenly. She has gradually got worse since that time. Her mother says that when she gets tired she talks through her nose. Twelve months ago she lost her voice for the second time for about a week, and a third time three months ago. A year ago she was not able to blow up a toy balloon; she could not keep her lips tight enough, and the air came through her nose. It has been almost a rule for her to have bad choking attacks at supper every evening for the past year when at home, but rarely on other occasions. No change in the face has been pointed out to her, but during a year she has found that she can take breakfast fairly easily, and with hardly any difficulty, but the trouble in swallowing increases as the day grows old. She has never noticed any difficulty in chewing, nor does she become tired in doing so, but the food sticks between her cheeks and teeth. About last September, too, her voice began to get much weaker; she tires very easily in speaking, and when she had continued doing so for some time, her voice would almost become unintelligible. In the same way she has been able to speak quite naturally each morning, but finds difficulty toward each evening. She sang with a choir until about two years ago, then had to give this up, as she would become so tired during the singing of the first verse she could not get any further, except with great effort. These various symptoms only began to trouble her about twelve months ago, when she began to experience some difficulty in swallowing, which slowly increased. At first the difficulty was only with solids; a mouthful of bread or meat would slip back into her throat and nearly choke her, and she would then have difficulty in drawing her breath. Later liquids taken began to regurgitate through her nose. She finds

no difficulty in taking sips, but can't drink fast. Her eyes have been always full of water, "and tears have run over her cheeks," when she became tired or was exposed to wind. She was formerly able to whistle, but has not been able to do so for several months. For about two weeks, two months ago, she saw everything double, and the left eyelid drooped. There has not been any recurrence of the diplopia. She does not complain of any symptoms in her arms, but says her left wrist is not so strong as it used to be, and gets tired when she has used this hand for long. When tired the left hand also drops, and she is unable to bend it back. Frequently, too, she is unable to fully extend the left forefinger. She has never found the upper extremity weak. She can hold up a book to read, and can see quite well until the left wrist gets tired. Only on one occasion, two months ago, she noticed any weakness of her legs, and this of the left, and only lasted one day. During the summer she walked eight miles without feeling very tired. There is nothing peculiar in her gait. After any hard housework, as scrubbing, etc., she feels very tired "all over" and needs a rest. These symptoms have been very much worse at her menstrual periods. Her morning state corresponds to her evening at other times. During the days of the flow she can hardly speak; she has then to lie in bed. She has not slept so well during the periods of this illness as she previously did. She does not get out of breath very easily. *Present condition:* The patient is a small, but fairly well-developed girl; she is rather pale, the mucous membranes being especially so; the skin of the body and limbs is distinctly abnormal—that of the former is very rough, dry, and hard, but on the limbs and face it is for the most part dry and scaly, thin and shiny, and almost like tissue paper to the touch. There is some desquamation on the forehead and on the legs and fingers. There is no hair except on pubes and axilla, and even there it is sparse. The hair on her scalp is rather thin and coarse, and she says it has recently become more so.

She says that her arms and legs have always been bare of hair, and her skin rough as long as she can remember. Though the skin is at present dry, she says she often sweats profusely. She does not sleep as well as she used to; her appetite is not very good; menstruation every six weeks, not profuse, but painful.

The heart is not enlarged; apex beat not displaced; first mitral sound soft, indistinct, and prolonged; no murmurs are audible. Pulse soft. *Lung:* No cough or expectoration; no

abnormal physical sounds; no sternal dulness. *Abdomen:* No history of digestive troubles. Visceral organs normal to external examination. Urine 1015, acid; no albumin.

Mentally: Clear and intelligent, but rather apathetic. *Special senses:* Smell, good; taste, good; hearing, good; sight, R. V. 6-6, L. V. 6-6; visual field normal; A. B. natural. Both fundi are pale.

Cranial nerves: Ptosis on each side, right and left, which does not fully disappear on looking up. It increased each evening. No definite symptoms can now be brought out on examination, but the edges of any object held to the patient's right appear blurred, and the right eye does not move fully out on looking to the right. The pupils are large, but react well to light and accommodation. Sensory functions are normal. The temporals and masseters contract fairly strongly and are of fair size, but tire rapidly. In lateral movements the lower jaw is easily tired, and when requested to rapidly open and shut her mouth in quick succession, she can only do so slowly and with effort after about the twentieth time, and gives up as she is too tired after fifty-fifth time. Then she can no longer clench her teeth together. Her face is smooth and expressionless, with scarcely a furrow present, and narrow palpebral fissures. All movements of both the upper and lower division are very weak. She cannot bring her lids quite together right and left. Her smile is distinctly "pathetic," the mouth being elongated and its angle not sufficiently elevated. She also finds it difficult to wrinkle her forehead or to frown, and is unable to blow her cheeks out tense. She can pout her lips fairly well, but can't whistle properly, the lips not coming sufficiently together for action. The facial weakness is as noticeable in expressional as in voluntary movement. The palate moves straight, but is not very fully elevated in phonation. Each morning she can swallow fairly well, but finds difficulty and frequently chokes when taking food later in the day. In the first place, solids get between her cheeks and teeth, and she does not find it easy to again bring them within the latter, and then they slip back too easily into her pharynx.

Liquids frequently regurgitate through her nose and tend to choke her. Each morning her voice is distinct and practically natural, but toward evening, or after she has talked for some time, it becomes husky, somewhat nasal, and generally indistinct; and the more so the more she talks. The guttural letters are pronounced with the greatest difficulty; the phonation

remains fairly good. Her tongue is protruded straight and not wasted.

Muscular senses: The muscles of the limbs and the trunk are fairly large in proportion to her size; there is no evidence of any wasting of them, local or general. Their tone is also good. No rigidity or any abnormal degree of flaccidity of the limbs. *Neck:* Head is held erect, and she has not noticed any difficulty in doing so, even when tired. It is easily rotated and moved from side to side. The strength of all movements of both limbs was decidedly poor in comparison to the bulk of the muscles. When she was examined (toward evening) there was extension of the left hand. When at all tired she has considerable difficulty or may be unable to fully extend the left forefinger. When the limbs are extended horizontally in front of her, the left finger begins to flex after about fifteen seconds; later the left elbow to flex. Then both limbs begin to drop slowly and finally fall to the bed, after about thirty seconds, as she then says that she becomes so tired that she cannot hold them up any longer. Each movement becomes very weak, and finally impossible to *exhaustion* of the muscles after it has been repeated in rapid succession for a considerable time. This full flexion and extension of the left fingers becomes slow and laborious after about twenty-five movements, or about twenty seconds, and full extension no longer possible after fifty-three, or about forty seconds. First, the movement becomes slow and weak, and only possible with effort, and this increases until the movement is finally lost. Flexion of the left arm against gravity is greatly exhausted after about forty attempts. The so temporarily paralyzed muscles recover quickly. When at all tired she finds it very difficult to continue any action beyond a certain time. All movements are much stronger and less easily exhausted in the day than toward evening. There is no tremor in the horizontally extended arms; all movements excellent.

Trunk: No definite weakness of the abdominal or spinal muscles; respiration is almost entirely thoracic, regular, and fairly deep. She does not complain of getting out of breath too easily. Cough very feeble, and becomes exhausted after four or six attempts.

Lower extremity: All movements of the limbs are fairly strong when first tested, but tire easily, but not so easily exhausted as those of the upper extremity. In raising the left limb stiffly from the bed she gets tired after twenty-five times, but not exhausted till about sixty attempts.

No tremor or involuntary movements in these limbs, and coördination is natural. *Gait:* Quite natural, and does not seem to tire easily. *Subjective:* No numbness or tingling; complains toward evening of a general tired feeling. *Objective:* No change of any form of sensation. *Reflexes:* Biceps 20, not easily exhausted by repeated taps; triceps, 20; K. S., brisk, reduced after 70 taps rapidly repeated, but lost after 150 in patellar tendon; A. J., no clonus; epigastric, normal; abdominal, normal. *Sphincters:* No affection.

Treatment: Seemed to avail little. I gave 1-30 gr. strychnine, massage, and the interrupted current of galvanism.

THE USE OF THE X-RAY IN UP-TO-DATE MEDICINE AND SURGERY.

BY A. R. WILLIAMSON, A.M., M.D.

There has not been given a fair chance to the *x*-ray in surgery, for at present the *x*-ray is asked to cure patients who are practically dead. The skiagraphers, such as Leonard, complain that when the surgeon will not touch a case it is sent for *x*-ray treatment, so that it is a wonder that any results are produced at all. What is needed is the coöperation between physician and surgeon to use properly such an agency as pointed out by Leonard. No observer denies the efficacy of operation as a method of removing malignant disease from the body, but it is not a cure, being simply a removal of that disease and the surrounding normal tissue from the body. In the *x*-ray is an agent which has certain definite physiologic properties that produce changes in the growth and in the virulence of the cells of malignant disease. The clinical demonstration of this influence upon this malignant disease is excellent; there is nothing like it in experimental or practical therapeutics. Why the profession should not use every effort and every opportunity to employ this agent is beyond comprehension, for the agent has demonstrated itself as a force in combating malignant disease, and if it is used in conjunction with surgery we should practically be able to cure the majority of cases. The great difficulty to the *x*-ray operator is that cases do not come early enough; that a cure can be effected if malignant disease is found early and removed, is the statement of the surgeons, and this is borne out by statistics; the best means is early radical operation, and if to early radical treatment is added the supplementary treat-

ment by the Roentgen rays we combine two methods which scientific medicine has shown most effective. Surgeons should refer their patients early to the *x*-ray men, or they should treat their patients themselves, if they are competent in the use of the *x*-rays, after operating. One treatment does not contraindicate or hinder the other; in fact the healing of wounds is much more efficient and rapid under the *x*-ray treatment than without it, especially on ulcerating areas. The *x*-ray will penetrate the dressings, unless they contain some opaque antiseptic; and, with the present aseptic treatment of operating wounds, it is possible to treat patients with the *x*-ray as soon as the operation is finished. If the *x*-rays are efficient in the cases sent, practically moribund, in which the surgeon refuses to operate, it is highly probable that the *x*-rays would be more efficient in the cells lowered in vitality after operation, and the combination of operation and postoperative treatment ought to produce the best results in malignant disease. It is the duty of the physician who desires to see the best results not only to have malignant disease operated on as early as possible, if operation be possible, but also to supplement that operation by the thorough Roentgen treatment of the diseased area.

Coming to the use of the *x*-ray in medical conditions its use is growing: thus Adamson states that when the *x*-rays are used for the treatment of ringworm of the scalp, the hair of the part exposed to the rays falls, leaving a smooth, bald area entirely free from stumps; when this grows again after an interval of some weeks, the new hairs are free from ringworm; the fungus has not been killed, but has dropped off with the old hairs, and by the time the new hair grows no trace remains. Now by means of Sabouraud's radiometer, such accidents as burns or baldness can be avoided. It is based upon the fact that the platinocyanide of barium of the spectroscopic screen becomes darkened under the action of the *x*-rays and changes color in proportion to the quantity of rays received. It is then necessary to expose the part that is to be depilated at a fixed distance from the tube and to place a pastil of plantinocyanide of barium midway between the surface and the anticathode of the tube until it acquires the standard tint. The hair begins to fall about fourteen days after the application and continues to do so for a few days longer. It grows again in from six to eight weeks, and is fully grown at the end of three months. Provided that the length of exposure is not allowed to exceed the limit set by the right use of the pastil, that no area or part is

exposed more than once, and that the part exposed is kept at the proper fixed distance from the anticathode of the tube, there is no danger of permanent baldness or injury to the tissues.

Leonard has reported a dozen cases of various forms of neuralgia which he has treated by the *x*-ray; cases are too few and were under observation for too short a time to warrant drawing from them very valuable conclusions. Pain, however, is materially relieved at times, and in some cases apparent cure was obtained. This method of treatment, therefore, deserves further trial in suitable cases.

In mycosis of the throat, Hurd's patient was first given ten-minute sittings, twice a week for six weeks. The pain and discomfort diminished after the first two exposures, and after the fourth exposure some of the smaller tufts in the throat became soft and could be wiped off. At the end of six weeks the patient discontinued the treatment, but three months later he returned for further treatment, the condition in the throat having remained stationary. He again received ten-minute sittings, but three times a week, and after three months no spots could be found. The tonsils and pharynx were directly exposed to the rays through a speculum something like a Ferguson vaginal speculum with a large flange to protect the face from the rays. The lingual tonsil and larynx were treated with the rays from the outside; the patient received forty-one treatments in all.

Recently Pfahler diagnosed a case of subphrenic abscess by the skiagraph. It is well known that such a diagnosis is often difficult; thus in a report of five cases by Osler, three were misdiagnosed, and as the diagnosis is always difficult, every additional method of investigation that is at our command should be tried. Pfahler in reporting this case calls attention to the confirmatory evidence that may be obtained from the use of the *x*-rays. The patient was a street-car conductor, and had been well until ten days before admission, when he complained of soreness in the abdomen. He had a chill and vomited. He was up and about until three days before admission, when he went to bed on account of weakness and pain in the back. He was admitted to the hospital February 18, 1903, when his chief complaints were weakness, pain in the back, and nausea. He was sent to the hospital with a probable diagnosis of typhoid fever. His temperature was 101.6°, pulse 108, and respirations 32. His appetite had been lost, and his bowels had been irregular during the preceding ten days. Physical examination briefly showed a poorly nourished white man, under average size, hav-

ing a general appearance of weakness. Skin was of a muddy color, and showed a profuse perspiration. Eyes showed a yellowish tinge of the conjunctiva, and dilated pupils. Mouth showed normal mucous membrane, but the tongue was heavily coated, moist, and tooth-marked. Chest showed no expansion in the right lower axillary region. No vocal fremitus could be felt below the fifth rib anteriorly, and the seventh rib posteriorly. Fremitus was normal elsewhere, except a slight increase at the right apex. Percussion gave impaired resonance at the apex, and dulness below the fifth rib anteriorly, and the seventh rib posteriorly. The dulness was not movable, and did not change with the change of position. It was clearly not the normal line of liver dulness. Breath and voice sounds over this area were absent. The lower border of dulness of the liver extended 1½ inches below the costal border in the midclavicular line and showed distinct tenderness. The right side of the abdomen was red from the effects of a mustard plaster. There was rigidity in the right iliac fossa, with tenderness extending back to the right lumbar region. There appeared to be a mass in the right iliac region. Rectal examination elicited tenderness and resistance at the end of the examining finger. The heart showed a diffuse apex beat, a slight increase in the area of dulness, a weak muscular sound, otherwise nothing abnormal. The spleen was slightly enlarged. Urine analysis added nothing of importance. Blood examination showed: Hemoglobin, 85%; red corpuscles, 4,360,000; white corpuscles, 32,200. The differential count showed: Polymorphonuclear cells, 90%; large mononuclears, 8%; small mononuclears, 2%; no eosinophiles. *X*-ray examination showed a haziness of the right apex, a sharp rising curve of the right side of the diaphragm. The right side of the diaphragm was absolutely immobile, while the left side moved 2½ inches, which is above the normal. A skiagraph was made and developed later. The diagnosis of subphrenic abscess secondary to an appendiceal abscess was made. On the morning after admission, an incision was made in the right lumbar region; about 1½ pints of pus removed. Immediately after the evacuation of the pus, the line of dulness at the base of the right chest corresponded to the normal upper border of the liver. The patient lived about three hours after the operation, and died apparently of general toxemia. Autopsy was refused.

In examining the diaphragm with the *x*-rays, both the fluoroscope and the skiagraph should be used. Pfahler emphasizes making a fluoroscopic examination for any condition of the

chest; probably the most important study is that of the diaphragm, including its curve, its position, and its movement. Its position and curve can be equally well studied from the skiagraph, but its movements can be studied better with the fluoroscope. Normally, the position of the diaphragm is about one-half inch higher upon the right side than upon the left, and the dome is usually on a level with the tenth rib in the midscapular line. The line curves downward then about three-quarters of an inch near the spinal column. At the outer side of the chest it curves downward about an inch and a half, but it may be displaced upward by new growths, ascites, cysts, abscess, adhesions from above, or collapse of the lung. It may be displaced downward from above by new growths, fluid accumulations or pneumothorax, or drawn downward by adhesions from below. Of course the curve will be influenced by the same conditions. A study of the movements of the diaphragm is most important, since it will, at times, be one of the earliest indications of disease either above or below the diaphragm. For instance, one of the earliest signs of incipient tuberculosis of the lungs is a diminution in the movement of the diaphragm on the affected side. In turn, all of the diseases of the lungs or pleuræ, the inflammatory or painful conditions of the abdomen, or of the diaphragm itself will influence this movement. The fact that the diaphragm did not move during respiration was seen by the fluoroscope, but may also be seen in the skiagraph. No movement with clear lung above is strong evidence of some inflammatory or painful condition. These three points, therefore, indicate an inflammatory accumulation between the liver and the diaphragm, which could be little else than an abscess. The *x*-ray examination should be added to the clinical investigations, and to insure greater accuracy it should include fluoroscopic and a skiagraphic examination.

A dose of *x*-rays is practically the same as the dose of any other remedy, depending upon the individual case. One therapeutist uses his drugs, digitalis or strychnine, by rule of thumb, and one uses drugs according to his case. The latter point is absolutely essential in *x*-ray therapeutics. Determine the dosage and the quality of the rays, up to the present time, which have to be used in the treatment of different forms of malignant disease. The treatments for epithelioma, for carcinoma, and for sarcoma are practically widely different. Rays which approximate those of radium are for the treatment of epithelioma in a tube of very low vacuum; a medium ray used for the treat-

ment of carcinoma, and a higher penetration used particularly in sarcoma. The applications of these rays differ. Thus the differences in the type of tube and its position in relation to the patient have to be taken into account. In the treatment of deep growths the tube is placed at a greater distance, so that the rays shall be of a more uniform character. The distinction is very marked between the kinds of treatment for various forms of malignant disease and the method of treatment. The treatment of sarcoma has been shown to be most effective when it has been divorced completely from operation. Leonard has a case of a man who had a mass in the tonsil filling the pharynx and external fossa, diagnosed as an inoperable sarcoma by a number of prominent surgeons. Under Roentgen treatment the growth disappeared, and the man has been at work for over a year. The case was referred as inoperable. Hard growths are more amenable to *x*-ray treatment than the soft, and the less rapid growths are more amenable than the rapid. The beneficial effects seen in healing are noted in difficult cases in which the skin defects and ulcerating areas remain to be healed.

Skiagraphy is an aid in the diagnosis and treatment of disease of the accessory sinuses of the nose; as Coakley states, it is now possible by means of a skiagraph to determine the presence or absence of a frontal sinus which extends vertically above the glabella, although a frontal sinus may be small, parallel with the upper inner margin of the orbit, and not detected in the skiagraph. In all cases of unilateral disease of the frontal sinus verified by operation, Coakley observed a cloudiness in part or all of the area occupied by the sinus and indistinctness in the outline of the cavity where compared with the opposite or healthy side. The skiagraph has invariably shown the frontal sinus to be somewhat larger in all dimensions than it proved to be when operated on, due to the divergence of the rays as they pass from the tube to the plate. A good negative may be depended on to show the septum separating one sinus from another, and the various incomplete septa that may be present in each sinus are usually shown quite clearly. An oblong, narrow, much darker area, nearly parallel with the upper margin of the orbit on its nasal side, and usually just above it, whenever present, has been found to be an orbital prolongation of the frontal sinus, running anteroposteriorly above the orbit, oftentimes the full depth of the latter. The examination of a skiagraph of the two frontal sinuses when compared with results found on transillumination will aid very much in determining the presence of

a diseased sinus. Skiagraphy may prove a valuable aid in determining our method of treating a chronic suppurative frontal sinusitis, and in determining the height and width of the ethmoidal cell area and the sphenoidal sinuses. Arranging the plate so as to include the superior maxilla as well, it will be found that a chronic suppurative process in an antrum presents the same filmy appearance as noted in similar conditions of the frontal sinus and ethmoidal cells. A healthy antrum presents an irregular, triangular area, dark in color, with a few light colored septa running through it.

Kassabian has made the application of the principles of stereoscopy to the art of skiagraphy. He states there is a misunderstanding as to the two terms, "photography" and "skiagraphy," for a photograph is an image produced on a sensitive plate in a camera by the ordinary light, reflected from the surface of the object, converging and passing thither through a lens or pin-hole, and then diverging and falling, producing a reduced size of the image on the plate. Therefore, we call a photograph a "reflected" picture, and we see only that part of the object that is near or toward the optical perimeter if the object is not transparent; if it is transparent, then the refraction obscures the clearness of the farther side. In skiagraphy, working with *x*-ray apparatus, the *x*-rays emanate from a small point (anode) and diverge and pass through opaque bodies (to ordinary light), and throw a relative shade of the object on a sensitive photographic plate, producing merely an actual silhouette. Therefore an *x*-ray picture or skiagraph is produced by transmitted light. Thus examining the hand with the fluoroscope or skiagraph, the shadows are the same when looking from the dorsal as when looking from the palmar side of it, the shadows having equal sharpness, there being no refraction. When we look at photographs which are taken with one lens (as if with one eye) and skiagraphs made in one direction, there is only a flat picture, with no perspective and no relief effect. The ordinary photographs and images look flat, as if seen by one eye, the reflection of the plane; while stereoscopic pictures which are made by two lenses, each being two and one-half to two and three-quarter inches from each other, will be impressed on the retina as one picture, thus giving a perspective view. The stereoscopic fluoroscope consists of a fluorescent screen illuminated by two tubes which spark alternately; a rotating disk with appropriately placed slots eclipses each eye alternately. This works synchronously with the sparking of the tubes. Each

eye sees the shadow cast by one tube. A stereoscopic image is thus seen on the screen. Stereoscopic fluoroscopy is very interesting indeed, it being possible to see foreign bodies in their exact position, not as in the ordinary picture. Unfortunately, this method is impractical for several reasons—the complexity of the apparatus, expense, the bulk, etc. The technique briefly consists of taking two separate skiagraphs of the same part, on two different sensitive plates, without changing the position of the parts, but displacing the position of the Crookes tube for one-half to two and three-quarter inches, corresponding to the distance apart of the pupils of the eyes. Afterward these two negatives or skiagrams should be examined with a special instrument. The part on which the stereoscope is to be used should be first fluoroscoped or skiagraphed in order to have an exact knowledge of the location of the injury present. For use in stereoscopic work there is a slot changing box, measuring fourteen by seventeen inches, the top of which is of thin wood or hard fiber. The size of the plates is marked upon this top in order to correspond to the dimensions on the drawer of the box. Over this box is placed crossed wire, which facilitates the accuracy of superposition while using the stereoscope. The best method in taking stereoscopic pictures is to have a horizontal bar, scaled in inches and centimeters. First center the object, then move the tube to the right, corresponding to the vision of the right eye (one and one-quarter inches), and take a picture. Place a fresh plate in the drawer of the box, which can be done without moving the object, and move the tube to the left, corresponding to the view from the left eye, and take another picture. The plates should be marked "right" and "left," in order not to confuse them after the picture is taken.

This method is most excellent for demonstrating the structure of the bones. In both long and short bones the trabeculæ are seen, and in the long bones the arrangement of the lamellæ in the shafts and in the cancellous tissue is detected. The spiral arrangement of the lamellæ is distinctly shown, especially in the humerus and femur, as also is the change in their direction near the articular surfaces, bringing them into columns perpendicular to the surface of pressure. While in surgery there are, of course, numerous methods of localizing foreign bodies, stereoskiagraphy being the most satisfactory, giving, as it does, a definite view of the foreign body, enabling the surgeon to operate with certainty, so with regard to fractures. The method procures definite views of injuries, namely, the exact

position of the fragments, the amount of overlapping, the separation, the degree of apposition in deformities, etc. The ordinary skiagraph does not show the variety and character of a dislocation. The stereoskiagraph, however, overcomes this difficulty, producing a clear and definite view of the existing condition, so as to differentiate between an anterior and a posterior aspect, depending on the position of the plates. The heart, its position; the aorta, its relation to the vertebral column; the beautiful cage appearance of the thorax, the location of a cavity or consolidation, etc., are interesting and fascinating from a practical and scientific standpoint.

The protection of the operator now is a practical point, and most essential, as Piffard has pointed out recently in the *N. Y. Medical Journal.* Not long after the adoption of the *x*-ray as a therapeutic resource serious injury to patients led the surgeon to a more careful and circumspect technique, but while taking the utmost care to guard their patients from injury many operators neglected to take proper precautions against harm to themselves. Overexposure or too frequent exposures, or the use of unsuitable tubes, usually indicated trouble within a limited period of time. Frequently he would go on in fancied security for months or even a year or two, before he fully awakened to the fact that his hands had become the seat of dermatic lesions, that, however insidious in their invasion, at last had become matters of serious import; so serious that not only have limbs but even life has been sacrificed to this mysterious force. Brown claimed that a very considerable proportion of those who have devoted much time to the use of the *x*-ray for radiography and radiotherapy are sexually sterile. As the injurious effects of the *x*-ray became manifest, efforts were made to obviate them; thorough protection of the patient by means of lead screens and judicious dosage of the radiation soon led to a marked diminution of untoward accidents in this direction, but of course were not effective in guarding the operator from danger. This was met on the one hand by enclosing the tube in a ray-proof box with a small hole through which the desired rays might find exit. This, though effective, was cumbersome. Certain shields of metal or dense glass of hemispherical form served to shield the patient and also the physician from the rays emerging from the anterior hemisphere of the tube, but naturally failed to protect the operator from those that emerged from behind the target, and many tubes give off rays in this direction, while the operator sought to protect his hands with lead-lined gloves

or other devices. Non-radiable garments covering nearly the entire person were advertised by German dealers in *x*-ray supplies. One, like the knights of old, may now be protected by complete coats of mail, effective for the purpose, but hardly convenient for the wearer, especially during an American summer. Piffard felt that the simplest means of professional safety lay in the proper construction of the tube itself. The tube should be made from dense flint lead glass, opaque to the rays, but with a small window of crown glass of low refractive index, through which the rays might emerge. He ordered from an English maker a tube with a six-inch bulb of dense glass, with a one-inch window of transparent glass, the tube to be furnished with a palladium regulator of the Gundelach type. The object of the extra or passive bulb is to aid in steadying the vacuum and in a measure retard the heating of the active bulb.

Tested radiographically it gives a beautifully sharp and clear picture of a small object, but only after an exposure so long that it would not be practicable for animate tissues. There is a notable absence of the so-called secondary rays, and the clinical usefulness will of course depend in great measure on the part that these and the cathode rays take in bringing about therapeutic results.

In the Prussian official tariff of fees no provision is made for the remuneration of consultations by telephone. The wish has been largely expressed by practitioners in that country that this omission should be repaired. The Cultus Minister has sent a circular letter to the Medical Chambers asking for their views on the subject. The Pomeranian Chamber has replied that consultations by telephone should be remunerated on the same scale as those at the practitioner's own house. It is expected that the other Chambers will reply in the same sense.

A PHYSICIAN of Spokane, Wash., has, says an exchange, been sued for damages in the amount of $10,000 as a result of skin-grafting. The suit is brought by the man who furnished the pound of flesh, or, more exactly measured, 150 square inches of skin. It is alleged that the surgeon promised to remove only two or three strips an inch wide and three or four inches long, but that, owing to the apparent willingness of the subject he removed the entire graft from him without waiting to anesthetize other persons who had volunteered to share with him in the sacrifice.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

Matters relating to advertising space, etc., to be addressed to the Publisher, E. G. Swift Box 484, Detroit, Mich.

EDITORIAL ARTICLES.

BACTERIAL AUTOINTOXICATION.

The activity now manifested in all research work having for its purpose the development of the science of immunity is leading to many interesting discoveries. While controversy wages between the adherents of Metchnikoff and Ehrlich there are not wanting dispassionate observers ready to demonstrate the harmony existing between conceptions which seem at variance with each other. The general reader may, not without some show of reason, hold up his hands in dismay at the jargon with which the terminology of immunity is invested. If he adheres to Metchnikoff's doctrine he must understand that the phagocytes may be macrophages or microphages, and that the intercellular ferments these cells contain are far more different in their nature than their names macrocytase and microcytase would indicate, and that whereas macrocytase, the ferment of the macrophages, acts upon normal cells alone, it is the microcytase of the microphages that digests, destroys, and annihilates the invading bacteria. With the doctrine of Ehrlich the demand upon the memory is in nowise lessened; the side chain of receptors and the relation of these to the amboceptors of the cells are matters which may easily conduce to a state of intellectual befuddlement which will make the reader try and remember how he passed the previous evening.

A not uninteresting piece of research work is that which has recently been undertaken by Conradi and Kurpjuweit (*Münchener med. Wochenschrift*), and which bears directly upon problems of immunity by imputing to the microbes themselves the sources of their own destruction rather than by finding this in intracellular phagocytic fermentation or in chemical neutralization. There are a number of facts which

tend to the belief that microörganisms carry in themselves the elements of their own destruction. It is known, for instance, that the cholera vibrio if grown on a nutritive medium increases prodigiously for the first twelve hours and then its multiplication diminishes progressively, and this not depending upon any weakening of the nutritive medium. Later researches have shown that old cultures of microbes contain particular substances capable of exercising veritable arresting action in the development of further growth of the bacteria. These substances are also found in the aseptic decompositions of animal and vegetable cultures, and it is therefore surmised that these substances reside in the bacteria themselves and constitute a toxic product which acts upon the bacteria themselves autogenetically.

It is impossible briefly to summarize the experiments which have been conducted with a view of placing the doctrine of bacterial autointoxication beyond dispute. There is perhaps nothing new in the idea that bodies generate their own autotoxins—indeed, this is only confirmed by a wide range of observed facts, and if it is so immunity dogma will doubtless modify itself with its usual dexterity to make itself conform to the accepted order of nature.

EDITORIAL NOTES.

This Year's Football Fatalities.

The present season has seen an immense amount of discussion in regard to the brutality of football as it is now played by the teams representing the great universities, and there has already been inaugurated by those in authority a movement toward modifying the game. One lay paper, after gathering all the available statistics in regard to serious accidents and deaths that have occurred this year, finds that the deaths number nineteen and the seriously injured one hundred and forty. Of those killed ten were young boys of seventeen or less, but three of the victims being players on collegiate teams. Internal injuries from blows were responsible for four deaths, six died of concussion of the brain, three from injuries to the spine, blood-poisoning was responsible for two deaths, and four others died from other injuries. Among the injuries that did not result fatally were 19 broken collar and shoulder bones; 31 broken legs; 9 broken arms; 9 fractures of some portion of the skull;

3 broken ribs; 3 concussion of the brain; and 3 spinal injuries. As this report is doubtless incomplete, and if the true number of serious injuries could be gotten at, it would probably greatly exceed this number. If the game is going to live, and we trust it will, something will have to be done to eliminate its present dangers.

A Dead-beat Directory.

One of the greatest crosses the physician has to bear is the dead-beat. We all know him in his infinite variety, and many are the plans that have been suggested to get rid of him. Recently the physicians of St. Louis decided to publish a dead-beat directory for their guidance. The first edition of this directory will contain the names of some 15,000 persons who have forgotten to settle their doctor bills. The work will bear the title of "St. Louis Medical Credit Guide," and will be kept up to date by the issuance of a monthly sheet, and will be revised once a year. This plan is about the only one that is of any real value, and physicians in other cities might adopt it with profit to themselves.

To Prevent the Sale of Liquor in Colorado.

For some years past Colorado drug stores have had on hand a number of blank signed prescriptions which they filled out after every sale of liquor. An ordinance has recently been passed in that State providing that a physician may give a prescription for liquor only in the regular practice of his profession. To give a prescription without making an examination and without a fee to a man who simply wants liquor is a violation of the law and renders the physician liable to a fine of from $100 to $300. The passing of this law will not prevent the sale of liquor, as some genius will soon think of a plan as good as the blank physician's prescription.

The Destruction of Human Life by Wild Animals.

During the year 1904 there were registered in India over two thousand deaths directly ascribable to wild animals. In addition to this 21,880 deaths were entered as caused by snake bites. The official figures show that 88,206 cattle were destroyed by wild animals, 10,736 by snakes. While the government of

India makes strenuous efforts to reduce the mortality due to wild animals, only 16,122 were killed during last year. The people of India apparently make little effort to better this condition, for while the government grants a great number of licenses for the killing of wild animals, the number killed during 1904 would seem to show the people as poor hunters, or else very careless of this constant menace to human life.

Less Medical Students.

Reports from the various medical colleges throughout the country show a most decided falling off in the number of new students enrolled. Medicine does not seem to be at present as attractive a calling as it once was. Naturally the higher requirements for admission to most colleges, together with the rigid examinations required by the different State Boards, has something to do with deterring young men from embarking upon the uncertain sea of medicine. Should this state of affairs keep for another ten years those engaged in practicing the medical art will not find the struggle for existence as strenuous as it is now.

A Check Against Forgery.

M. Bertillon has recently proposed that in the future, to prevent banks from loss, all checks should be signed not with the pen, but with the thumb. The work of M. Bertillon has shown that no two thumbs will register the same imprint, and would thus make an infallible mark of identity. While the adoption of such a system would mean more work for the clerical force of a bank, the saving from the cashing of forged checks would seem to warrant the trouble.

A Smallpox Antitoxin.

A serum has recently been perfected by a well known Turkish physician, Dr. Rifaat Hussameddine Pasha, professor at the medical school of Constantinople and director of the smallpox establishment, which its originator claims will be antitoxic against smallpox. The serum is being tested by a commission appointed by the local medical faculty. Even should the discoverer make good his claims it is hard to see how it can in any way be superior to vaccination.

ITEMS AND NOTES.

INSANITY is said to be increasing in Montreal.

BUBONIC PLAGUE is reported to be present in Zanzibar.

THE memorial to Virchow is to be erected on the Karlsplatz, Berlin.

THE International Congress on Milk Supply will hold its third congress at The Hague, the center of the milk industry in Holland, in 1907.

THE Medical School of Harvard University has again raised its standard for entrance by requiring a knowledge of elementary organic chemistry.

FIVE HUNDRED antitoxin depots have been established by State Health Commissioner Dixon for the free distribution of diphtheria antitoxin in Pennsylvania.

FOUR HUNDRED AND THIRTY-EIGHT cases of diphtheria and fifty deaths were reported during the month of October to the division of contagious diseases of the Chicago Department of Health.

IT is reported that several cases of bubonic plague have occurred in Rio Janeiro, and the Board of Health has called a meeting to consider what measures are necessary to prevent an epidemic.

A WARNING has been issued by the United States Marine Hospital Service against lobsters, stating they are a cause of the spread of typhoid fever, which is prevalent now in many eastern cities.

AN exhibition for the instruction of the people in regard to the nature and treatment of tuberculosis, and especially concerning prophylaxis, will be opened in Faneuil Hall in Boston on December 28th.

DR. WILLIAM M. LATE COPLIN, professor of pathology and bacteriology, Jefferson Medical College, and director of the Jefferson Hospital laboratories, was appointed by Mayor Weaver director of health and charities of Philadelphia, vice Dr. Edward Martin, resigned.

THE fifth annual meeting of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics was held in the main hall of the New York Academy of Medicine on November 29, 1905.

THE *Medical and Surgical Monitor* of Indianapolis and the *Central States Medical Magazine*, Anderson, have consolidated, and will be known as the *Central States Medical Monitor*, to be published at Indianapolis. Dr. Samuel E. Earp will be editor.

DR. GEO. M. GOULD, 1722 Walnut St., Philadelphia, will be grateful for any trustworthy information as to the methods which have been devised by the blind in overcoming their disability or in gaining a livelihood. Accounts of such lives, anecdotes, references to literature, etc., will be appreciated.

THE superior moral qualities of the Italian nation appear in the fact that there have been only about 8000 suicides in Italy in the past four years, while in France more than three times as many have been recorded. When the peasant of Calabria or Apulia gets discouraged he doesn't shoot himself, he emigrates.

AMONG the resolutions passed by the Congress of the French Association for the Advancement of Science recently held at Cherbourg, was one calling on the Ministry of War to consider the expediency of creating a service of dental surgeons of sufficient strength to supply the requirements of each army corps.

DURING the Spanish war a certain amateur nurse found ample scope for her enthusiasm and abilities, but her zeal was slightly abated after a morning visit to her ward, when a suffering hero was discovered lying with the coverlet pulled over his head, and a placard pinned to the outside which read: "Too sick to be nursed to-day."

ELLIOTT SCHMIDT has, says an exchange, discovered in a prehistorical sarcophagus a vesical concretion. It lay between the two iliac bones of an adolescent sixteen years old. The age of the tomb has been estimated at 7000 years or more. Examination of the vesical concretion showed that it consisted exclusively of uric acid with an envelope composed of phosphates.

AS an instance of the intense earnestness of those who are struggling for liberty in Russia and of their hatred of the brutal Cossack defenders of the government, it is reported by an ex-

change that over two hundred physicians met in Odessa on Sunday last and unanimously resolved to refuse to aid any soldier, Cossack, or military or civil official who is injured in fighting the people.

THE case of the Iowa physician who committed suicide because the community in which he settled is so distressingly healthy that no one ever has to call in the doctor, contains an admonition to the medical profession that either the physicians will have to combine to combat present tendencies to live aright and keep well, or must henceforth seek to be paid for preventing diseases rather than for curing them.

A MASSACHUSETTS legislator proposes introducing this winter a bill "to prohibit all experiments under any circumstances and for any purpose whatever, with or without an anesthetic, upon dogs or cats." A petition is now being circulated through the State, and the parties behind the measure hope to present many thousands of signatures in favor of the bill when it comes before the legislature.

THE next meeting of the German Society of Experimental Psychology will be held at Würzburg on April 10 to 13. Reports will be presented on the following subjects: (1) The relations between experimental phonetics and psychology (by E. Krueger); (2) experimental esthetics (by Kuelpe); (3) the psychology of reading (by F. Schumann); and psychiatry and individual psychology (by R. Sommer).

IT is reported by an exchange that a prospector has discovered in Kern county, California, a deposit of ore, apparently of volcanic origin, which contains uranium. Among the constituents of the material are said to be uranite, carnotite, and pitchblende, all of which contain salts of uranium rich in radium. This is the first deposit of this ore found in California and the second in the United States, others being in Gilpin county, Colorado.

AMONG the members of the medical profession in foreign countries who have recently died are Dr. Hermann Cordua, head of the surgical Poliklinik in St. George's Hospital, Hamburg, and one of the most popular members of the profession in that city, aged 53; Dr. G. Dewalque, emeritus professor in the University of Liege, aged 80; and Dr. Bernardino Silva, professor of special medical pathology in the University of Turin, in his fiftieth year.

THE French Congress of Medicine will hold its ninth meeting in Paris in 1907 under the presidency of Professor Debove. The general secretary is Dr. Bezancon. The following questions are proposed for discussion: (1) The part played by the thyroid body in pathological anatomy; (2) hemophilia; (3) treatment of ulcer of the stomach.

THE French Congress for the Prevention of Unqualified Practice of Medicine, which was postponed last year, will be held in Paris from April 30 to May 3, 1906, under the presidency of Professor Brouardel. The Organizing Committee consists of Dr. Duchesne (chairman), Dr. Dubuisson (vice-chairman); general secretaries, M. Ch. Levassort and Maitre Bruno Dubon, of Paris. All communications relative to the Congress should be addressed to M. Levassort, 2 Place des Vosges, Paris.

THE Public Health and Marine Hospital Service report says: Official reports from Russia indicate a remarkable increase in the number of cases of cholera in the districts immediately adjoining the Russo-German frontier. Measures taken by the German health authorities seem to have the desired effect. In view of the fact that cholera is increasing in Russia in the provinces adjoining East Prussia and Galicia, and in the districts which are drained by the Vistula, constant vigilance will be necessary on the part of the German authorities to prevent reinfection of Prussia.

THE ingenuity of some sharp lawyer has enabled the quacks of Boston to add another difficulty to the task of convicting illegal practitioners, says the *Medical Record*. The trick is in putting the word "office" after the name. "The Dr. John Blank office" may be any sort of an office, whereas just Dr. John Blank would be much simpler to proceed against. As these offices are usually run under an assumed name, it is impossible of course to prove "Dr. John Blank" guilty of anything, and against the person who is conducting the business definite proof must be had, which is extremely difficult.

RECENTLY a new hospital car was exhibited in Chicago by the Southern Pacific Railroad. This car, says the *Medical Record*, can be transformed very easily into a parlor coach, and when it is not in use as a hospital car all of the berths and beds and the operating table are lowered beneath the floor, where they are stored. The floor sections of the berth space come up and form the head and foot boards for the berths. The sections

can be made up in single or double berths, and in place of the ordinary arrangements brass bedsteads may be substituted. Both lower and upper berths are provided with steel springs and the best mattresses. There is ample ventilation for both upper and lower berths, and either bed can be raised or lowered to any height desired. When the beds are in use the chairs and baggage are stored in the spaces beneath them.

In the weekly bulletin of the Health Department of Chicago, Dr. Biehm gives the report of his investigations in regard to the pneumococcus as follows: "Rabbits injected intravenously with the sputum of a single healthy person failed to develop pneumonia; injections with the mixed sputa of two or more healthy individuals never failed to produce a typical pneumococcus infection. These results demonstrate among other things the wide diffusion of the pneumonia germs; they are present in the secretions of the mouth and throat of the vast majority of the healthy individuals, usually lying dormant and inactive. Mixed with the germs of others they develop the disease. The practical point for prevention is the necessity of avoiding all unnecessary contact with a pneumonia patient, and the further necessity on the part of other members of the family, nurses, and attendants for sterilizing their throats during the course of the disease."

A remarkable surgical case has been reported to Surgeon-General Rixey, of the navy, by Passed Assistant Surgeon John H. Iden, assisted by Assistant Surgeons L. H. Wheeler and J. L. Belknap, says *American Medicine*. The patient was accidentally shot in the abdomen. On examination of the small intestines nineteen perforations were found, besides a number of wounds of the mesentery. At one place there were five perforations in about four inches, necessitating resection. End-to-end anastomosis was done, and some of the perforations were closed by purse-string sutures. The operation lasted about two and a half hours, and at the completion there was no perceptible pulse, but faint heart sounds were heard with the stethoscope. The patient, however, reacted well to the hot intravenous saline infusion. Fifty-one days after the operation he was sent on duty perfectly well. At his own request he was permitted to do light work in the hospital kitchen for ten days previous to discharge. The patient was under the anesthetic for fully three hours.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Prostatectomy.

D. Czerny (*British Medical Journal,* Oct. 28, 1905) in a paper read at the last meeting of the Deutschen Gesellschaft für Chirurgie stated that prostatectomy had not received in Germany the recognition to which, as it is based on the anatomical work of German surgeons and is likely to maintain its position as an efficient method of treatment, it may fairly lay claim. At the present day prostatectomy, it is pointed out, is certainly indicated in cases of prostatic hypertrophy in which catheterism is difficult, and life is rendered intolerable by local pain, the formation of urinary calculi, and cystitis. In such cases the modern surgeon is led to decide not between prostatectomy and catheterism, but between the former and Bottini's operation. This method, in the author's opinion, is indicated only in clearly defined cases of a relatively small prostate with a well marked middle lobe. In experienced hands one-third of such cases may be cured and another third considerably relieved by Bottini's operation, which is not followed by fistula, and does not impair for so long a time as prostatectomy the functions of the bladder. The latter operation is probably attended by a higher mortality, but insures greater freedom of micturition. Whether the perineal or the transvesical method of prostatectomy is to be preferred is still open to question. Probably each method has its special indications. The perineal method favors a more effectual drainage of the bladder, and for this reason may be selected in cases of cystitis. The resulting fistulæ are slight and transient, and the action of the bladder is not more disturbed by this than by the transvesical method. The mortality of this method seems to be somewhat higher than that of perineal prostatectomy. Of fifteen cases of perineal prostatectomy practiced by the author, in two of which the gland was affected by malignant disease, two were fatal, six were completely cured, and the remaining seven were, with regard to removal of urinary obstruction and to freedom from pain, considerably relieved. In four of the last mentioned cases the patients were troubled by persistent incontinence and open perineal fistula.

Cancer of the Breast.

H. Gage (*Journal of the American Medical Association,* Nov. 11, 1905) gives the result of 62 additional cases to those already reported to him. All the parties were operated on before 1904, and 42 of them before 1902. He does not believe in any three-year limit as indicating a cure, and thinks that the practice of so estimating it should be abandoned. He has no very decided faith in anything but radical operative procedures in breast cancer. Excluding one patient not heard from, three incomplete palliative operations, and one patient who died shortly after the operation from typhoid fever, there are left 57 cases. Of the patients operated on over three years ago, 38 in number, 15 or 39.5 per cent are well at the present time. This is an improvement over his previous statistics and is attributed by him to the more radical operation. His statistics do not throw much light on the value of age as a factor determining the possibility of recurrence, but they support the common opinion of the lesser malignancy of cancer in old age. It is a little surprising, however, that the patients between forty and fifty seem to do better as regards recurrence than those in the next following decade. The numbers, however, are not very significant. No deductions of any value can be made from the figures as to the duration of the disease. His results show the value of the more radical operations in lengthening the period of immunity from recurrence when less than three years as compared with his earlier statistics. A radical operation is possible in every case in which the cancer is not firmly fixed to the chest wall or in which the cervical or infraclavicular glands are palpable. The chance should be taken even if the axillary glands are enlarged if those beyond cannot be felt.

Non-gonorrheal Urethritis.

H. G. Spooner (*Medical Record,* Nov. 11, 1905) first sketches the history of the study of urethritis, which was formerly confused with syphilis, and later was thought to be invariably due to the presence of the gonococcus. Now it is recognized that other microörganisms may give rise to urethritis, as has been shown by the experiments of Bockhart, Legrain, and others, who inoculated the urethra with various pyogenic organisms and obtained positive results. Such cases are not as rare as is usually supposed in this country, and they require consideration at the

hands of clinicians. As the causes that contribute to the production of urethritis are so numerous as to be beyond our comprehension, the author prefers a classification based upon the following clinical conditions: (1) Urethritis caused by external irritation: coitus, catheterism, ungratified erections (?), masturbation (?), medicated injections. (2) Urethritis caused by internal irritation—mechanical, chemical, and toxic—of constitutional origin: food, drinks, drugs, gout (?), rheumatism (?), arthritic diathesis (?), diabetes (?), herpes, mumps (?), syphilis (?), tuberculosis, typhoid fever (?). After the urethra has been chronically inflamed by a previous gonorrhea or by any other cause, indulgence in coitus renders the urethra more susceptible to germ invasion.

From the clinical point of view differential diagnosis is impossible, but as a rule in non-gonorrheal urethritis the incubation period and the course are shorter and less painful than in the specific form. Non-gonorrheal urethritis of constitutional origin must be treated so as to remove the exciting cause. When due to pyogenic bacteria the treatment is the same as in gonorrheal urethritis. Some cases of aseptic urethritis of unknown origin are not influenced by any form of treatment.

In conclusion the author says: (1) The presence of pyogenic bacteria is not sufficient to cause urethritis until the vitality of the epithelium is lowered. (2) There are two varieties of non-gonorrheal urethritis of primary origin, those caused by external irritation, those due to internal irritation, chemic or toxic. (3) No incontestable cases of urethritis caused by gout, rheumatism, the arthritic diathesis, diabetes, or mumps are contained in the literature.

Fracture of the Spine.

H. L. Burrell (*Annals of Surgery*, October, 1905) has from his observations on 244 cases drawn the following conclusions:

Fractures of the spine may well be divided into two classes: first, fractures of the spine with injury to the cord; and secondly, fractures of the spine without injury to the cord. It is not best to decide what the treatment of an individual case of fracture of the spine should be from the statistics, because the lesion varies so widely. In many cases of fracture of the spine it is impossible primarily to state whether or not the cord is crushed or pressed on by bone, blood, or exudate, except by an open operation. Only by the persistence of total loss of reflexes, complete

insensibility to touch and pain, and motor paralysis below the level of the lesion can total transverse destruction of the cord be diagnosticated. If pressure on the cord is allowed to remain for many hours irreparable damage may take place. Unless it is perfectly clear that the cord is irremediably damaged, an open operation to establish the condition of the cord and to relieve pressure is imperative as soon as surgical shock has been recovered from. In certain cases of fracture of the spine, when the cord is not injured, but is liable to injury from displacement of the fragments of a vertebra, rectification of the deformity and fixation of the spine may be used. If the cord is crushed, no matter what treatment is adopted, there will, of necessity, be a high rate of mortality.

Sinus Thrombosis.

H. Hastings (*Journal of the American Medical Association,* Nov. 18, 1905) reports two cases of sinus thrombosis which are of interest, for the following reasons: In each case the thrombosis, though of otitic origin, was masked by the symptoms of other diseases, in one case by typhoid and in the other by malaria. In neither case were the so-called classical symptoms—chills, sweats, and fever—present, and the suspicion of thrombosis was aroused in both by certain irregularities in the history which led to thorough examination of the sinus after the mastoid ablation. Hastings strongly advocates the examination of the sinus, and emphasizes the danger of delay until the classical symptoms appear, since these are evidences of a late and dangerous state, viz., of septic disintegration. He has seen the sinus uncovered, purposely or unintentionally, 115 times in 198 consecutive mastoid operations without any bad results. He believes that terminating a mastoid operation in an old case, or when there is much mastoid destruction, without uncovering the sinus and making sure of its condition is bad surgical practice.

Treatment of Chronic Prostatic Enlargement.

J. P. Lewis (*Boston Medical and Surgical Journal,* Nov. 9, 1905) says the use of sounds is generally to be condemned. The sphere of usefulness of the catheter is growing smaller and smaller as the advantages of an early operation make themselves manifest. The Bottini operation may be applicable in selected cases, but should seldom if ever be adopted. Orchidectomy,

vasectomy, ligation of the internal iliacs, injection of carbolic acid, application of electricity, and allied methods, he says, are to be condemned. Prostatectomy is the procedure of choice, best performed when the symptoms first make themselves manifest and the patient's condition is presumably at its best. The preferable route is through the perineum, the preferable method that of Young or one of its modifications, but much depends on the skill of the operator in the method employed. In patients with foul bladders and diseased kidneys who, we have reason to expect, would not stand an extensive operation, thorough drainage should first be instituted either by a suprapubic or perineal incision under local anesthesia, to be followed later by enucleation if deemed advisable. The use of local anesthesia, especially spinal cocainization, is of great value, and should be more extensively employed.

Gangrene of the Testicle in Gonorrhea.

Buschke (*Deutsche med. Wochenschrift,* No. 38) reports a case of a 27-year-old man afflicted with gonorrhea which resulted in necrosis of the testicle and abscess formation, which destroyed the entire organ. The accompanying epididymitis was not severe. After opening the abscess and extirpating the tunica vaginalis together with the testicle the patient recovered. The cord was not swollen or painful.

MEDICINE.

Top Milk Mixtures.

According to J. C. Gittings (*Journal of the American Medical Association,* Dec. 2, 1905) good results in infant feeding can be obtained with the use of the top portion of good ordinary milk bottled under fair hygienic conditions. A little personal investigation of one or more dairies will often enable the physician to recommend a useful product at market rates. The excessive variation of the fat content is largely compensated for by the necessary dilution. The proteid is much less likely to be variable, and while the percentage of this and of sugar decreases as that of fat increases, for practical purposes allowance need only be made for this when we use 13 or 16 per cent cream. Certain other matters are just as important as the strength of the milk. The proper interval of feeding should be

more strictly adhered to than the amount of strength of the mixture. Save in exceptional cases, such as illness, etc., the following rules may be advocated: During the first two months of life the interval between feedings should be two hours; during the second two months two and one-half hours. After the fourth month the interval should be three hours. The amount given at different ages may be approximately stated as follows: First week, 1 ounce; second and third weeks, 1½ ounces; fourth week, 2 ounces. From the second to the seventh month, inclusive, the amount of mixture in ounces varies from the number of the month to one in advance of it; for example, third month, from 3 to 4 ounces; fifth month, from 5 to 6 ounces, etc. It rarely will be advisable to give more than 8 ounces at one feeding. As regards the strength of the milk mixture it may be assumed that the average healthy infant can digest whole cow's milk at the age of from eight to twelve months. Some can do it earlier, and others will be unable to digest whole milk at any time during the first two years of life. The first three months is the crucial period, when mistakes are most frequently made, and during this period the strength of the first milk mixtures should be: fat, 1.5 to 2 per cent; sugar, from 4 to 5 per cent; proteid, from 0.5 to 0.75 per cent. By the third or fourth month the fat should have been increased to from 1.5 to 2.5 per cent. From the eighth to the twelfth month the full strength of whole milk should have been reached.

The cardinal points to be noted are the condition of the child's digestion, the gain in weight, and the appetite. The importance of frequent (biweekly or weekly) weighing is emphasized; a healthy child should gain from 5 to 7 ounces a week during the first four months of life, from 3 to 5 ounces during the fifth, sixth, and seventh months, and from 2 to 4 ounces from the eighth to twelfth month. A knowledge of the strength of top milks is requisite; the upper 16 ounces of average milk (4 per cent fat) contains approximately 7 per cent fat; the upper 11 ounces 10 per cent fat; the upper 8 ounces 13 per cent fat; and the upper 6 ounces 16 per cent fat. The proportion of proteid to 7 per cent cream is about 2 to 1; in 10 per cent cream 3 to 1; in 13 per cent cream, 4 to 1; and in 10 per cent cream 5 to 1. In the whole (4 per cent fat) milk the ratio is about 1 to 1. The sugar content is more constant, averaging near 4½ per cent. With these figures the proportions of different milk mixtures are easily calculated. The amount of sugar needed for the proper nourishment of an infant is from

5 to 6 per cent, and to supply this in the mixture it should be added to the diluent in proper proportions. The instructions given on these points by Gittings are rather detailed and a list of formulas is appended.

The Subcatabolic Metabolism of Colds.

H. Wakefield (*Medical Record*, Dec. 2, 1905) explains the occurrence of colds on the view that they represent the results of disorders of metabolism due to local circulatory disturbances following the unequal exposure of some part of the body to cold. The degree of temperature is subordinate to the state of inequality produced, for a cold may be due to the extrinsic effect of either cold or heat if sufficiently pronounced or abrupt to insure a localized action of definite heterogeneity for the balance of the organism. The author has discovered that protoplasm as such is subject to the general law that heat causes expansion and cold contraction, or, in other words, cold heightens and heat lowers the specific gravity of protoplasm in general, not excepting that of the parenchyma. It is the writer's observation that the molecular weight or density of our parenchyma and all the living protoplasm is increased by cold and decreased by heat. Cold is productive of high density, compactness, and tonicity, while heat induces low density, looseness of texture, flaccidity, expansion, dilatation, elongation, and atony. This is not a nervous effect but a direct responsive reaction of protoplasm, *per se*, as is attested by the fact that it is as marked in nerveless unicellular and multicellular organisms as in those of the highest types of nervous organizations. In analyzing the mode of origin of a common cold the author says that we see that primarily a condition of disequilibrium is produced. A subject, during a period of normal heat balance, gets wet, cold feet; a state of contraction of the tissues of the lower extremities is attained, the blood is ejected from the peripheral vascular areas to the more roomy reservoirs of the splanchnic veins, which readily dilate to receive it, with the result that a pernicious splanchnic venous stasis is produced, concurrent with a capillary and arterial blood deficiency in the extremities and with an inevitable suboxidation of the dependent tissues in the extremities. The author then describes the various stages through which such an affection passes, and points out the connection between the events involved in such a course of reasoning and the phenomena

attending various other conditions depending on suboxidation. The usual treatment has been more or less successful in the past, but only with a vague idea of the pathology and etiology of the condition.

Certain Complications and Sequels Met in Operative Cases of Laryngeal Diphtheria.

B. F. Royer (*American Medicine,* Oct. 28, 1905) attributes sudden death during attempts to intubate in certain cases to reflex apnea. A cause of acute stenosis after extubation not usually given he proves to be atony of the cricoarytenoidei postici muscles. Autoextubation he believes is caused by pressure paralysis of the cricoarytenoidei laterales. Case histories are given typical of many complications, with illustrations of ulcers due to pressure sloughs or trauma. One illustration shows a condition not previously described. This histologic study of a section of a larynx almost closed by chronic stenosis shows infiltration of the perichondrium with cartilage cells, thus tending to make the stricture a cartilaginous one. In considering the treatment Dr. Royer says but little can be done for reflex apnea. The courses of treatment open for the other conditions are: (1) Persist with intubation; (2) insert large tubes, allowing them to remain for long intervals of time; (3) when autoextubation becomes dangerous and large tubes are not retained, do tracheotomy; (4) intubate frequently while the tracheotomy tube is being worn in order to prevent stricture stenosis; (5) with chronic stenosis due to contracting scar tissue practice wide dilatation with persistent intubation; (6) consider Roentgen-ray treatment as a possible adjunct in softening scars causing chronic stenosis; and (7) avoid if possible tracheotomy as a means of curing a patient of a tube habit.

Essential and Paroxysmal Tachycardia.

J. J. Morrissey (*Medical Record,* Dec. 2, 1905) says that tachycardia may be classed under two heads, namely, essential and paroxysmal, and this classification may be subdivided into true and false. The true tachycardia according to the author finds its best illustration in permanent disease of the cardiac musculature; the false may be produced by causes far removed from the heart. There are certain definite peculiarities which distinguish true tachycardia from the evanescent "heart hurry,"

so frequently produced by the most trivial causes. (1) The attack is sudden in its onset, reaching its height almost immediately; (2) the patient may or may not be entirely unconscious of the great degree of palpitation; (3) there is generally a definite period covered by the attack; (4) the reversion to the normal condition is as sudden as the onset, the vestiges of the storm through which the patient has passed rapidly disappearing. He then discusses the various forms of these types and describes several cases which illustrate the differences in origin which may be exhibited. For example, one case was produced possibly by myocardial degeneration, and another by profound shock to the nervous system. In one case in which digitalis appeared to be of no avail, the fluid extract of convallaria majalis in five-drop doses, four times a day, seemed effective. He concludes by saying that the treatment of tachycardia is that of the condition from which it arises or with which it is associated; but we must remember (1) that essential tachycardia is not accompanied with indigestion; (2) that paroxysmal tachycardia and the forms of tachycardia accompanied by signs no matter how slight of Basedow's disease are very frequently associated with dyspepsia; (3) that extreme cardiac arrhythmia frequently occurs without any indications of stomach disease; and (4) that tachycardia in its various grades is, however, often but a symptom, a prominent expression of a neuropathic state which requires to be approached for treatment from many sides.

Non-gastric Diseases with Gastric Symptoms.

J. H. Musser (*Journal of the American Medical Association*, Nov. 4, 1905) enumerates the principal diseases in which gastric symptoms are prominent without there being necessarily any organic disease of the stomach whatever. First among those mentioned are the disorders of the eyes, ears, nose, and throat, the gastric symptoms of which are familiar to all. In the diseases of the nervous system he refers to the gastric crises of tabes, the vomiting attending apoplexy, meningitis, and brain tumor, and especially to the gastric symptoms of epilepsy, which are sometimes misinterpreted in obscure cases of this disorder. Acute affections of the cardiovascular system may have gastric symptoms as their sole expression, and they are still more pronounced and continuous in failure of compensation. Among lung diseases apex pneumonia and tuberculosis are examples, and in children with severe vomiting the possibility of the former infection

should be borne in mind. The gastric symptoms of liver disease, of disorders of the intestines and appendix, and of the genito-urinary organs are well known, and in blood disorders the vomiting, etc., of chlorosis is a familiar example. Among the infectious disorders special mention is made of tuberculosis, gonorrhea, and syphilis, and among the intoxicants those of tobacco and lead, exophthalmic goitre, internal suppuration, Addison's disease, and uremia. The gastric neuroses of hysteria and neurasthenia sometimes cause special difficulties of diagnosis. Non-gastric diseases generally require the closest examination of all the organs and study of all the secretions and excretions, as well as of the clinical course and history. The symptoms bear more or less relation to pathologic or physiologic fluctuations of the primary cause in eye, heart, kidneys, or whatever other organs may be affected, and have not the constancy of those of organic gastric disease.

THERAPEUTICS.

Pathogenesis and Treatment of Diabetes Insipidus.

This comparatively little known disease was the subject of a paper read by Dr. Schmidt (*Lancet,* Nov. 4, 1905) before the Clinical Society of Vienna at a recent meeting. He said that two causes were mainly responsible for the quantity of the urine—namely, (1) increase of the arterial tension and of the velocity of the blood circulating in the kidneys, and (2) dilatation of the vessels of the same region. It was not likely that an increased chemical action due to special irritation of the parenchyma cells took place at the same time. As yet all descriptions of diabetes had the drawback of not exactly stating the blood-pressure at the time in question. The changes producing polyuria, and polydipsia as well, could be looked for either in the nervous system, such as pathological changes in the cerebellum, in the medulla spinalis, or in the vagus nerve (tumors, hydrocephalus, apoplexy, cerebral shock, disseminated sclerosis, cerebrospinal meningitis, section of the vagus at the throat, or pressure by an aneurism of the aorta); or, secondly, in the action of diuretics or similar chemical agents producing a dilatation of the blood-vessels. Severe cachectic and anemic diseases are also likely to produce polyuria, perhaps on account of the hydremia always present in carcinomatosis, chronic phthisis, and pernicious anemia. The treatment consisted generally in the

exhibition of vasoconstricting remedies, such as secale cornutum, digitalis, strychnine, adrenalin, and the like. But the results were very unsatisfactory. Dr. Schmidt proposes another way. His idea is to produce hyperemia in another but neighboring region, especially in the mucosa of the intestinal canal and in the skin, so as to relieve the renal capillary system. In three cases he prescribed an energetic purgative, consisting of one gramme of podophyllin mixed with a sufficiency of powder and extract of rhamnus frangula, and dividing into 40 pills, two of which were taken every evening. The purgation induced in this way acted as a counter-irritant, and Dr. Schmidt succeeded in considerably benefiting his patients, so that they are now practically well. In cases which are able to sustain a sweating treatment by the use of the hot Turkish bath the relief obtained by the action of the sweat glands is still more marked, but care must be taken to ascertain that there is no atheroma of the vessels, degeneration of the myocardium, asthma nervosum, or tachycardia which would contraindicate such a radical procedure. The best results are obtained in polyuria combined with constipation and diminished perspiration.

The Therapeutic Value of Alcohol.

A. D. Blackader (*Montreal Medical Journal*, November, 1905) says that alcohol is not an efficient cardiac or respiratory stimulant, but when administered in frequently repeated small doses its action on the circulation may be regarded as favorable. In some conditions with a determination of blood to the interior of the body, as indicated by cold extremities, livid skin, small pulse, scanty urine, and high rectal temperature, a condition which has been described as bleeding into the splanchnic area, the administration of alcohol by dilating the superficial vessels and equalizing the circulation may be of considerable service. Alcohol may also be of value when given to counteract the contraction of the peripheral vessels in the chill or rigor often associated with the onset of disease.

Alcohol is not a stimulant to the nervous system. Its action is that of a narcotic, benumbing sensation, including that of fatigue, allaying subjective symptoms, relieving nervous strain, and promoting rest. No other narcotic can be used so freely with so few injurious by-effects. Alcohol in disease is a valuable food, replacing carbohydrates, and as a general rule saving proteid metabolism. It places no tax on the digestive organs; on

the contrary, if used intelligently, it increases their secretion, thus in low and asthenic conditions assisting the digestion and favoring the absorption of other foods. In such conditions it may have also a favorable action on the hepatic cells, stimulating them to increased activity.

In infections of all forms alcohol should be used cautiously. In such cases it may be of value to the system either as a food itself or as favoring the digestion and absorption of other foods, but in large amounts it may and probably will do harm by destroying the resisting powers of the organism.

As clinicians we have to recognize that the effect of alcohol varies much with the individual and that its employment demands much discrimination and careful and frequent observation. We should also bear in mind that its prolonged use is liable to lead to degenerative changes in the heart, blood-vessels, and secretory organs.

Digestibility of Evaporated Cream.

T. Mojonnier (*Medical News,* Nov. 4, 1905) says that protein in evaporated cream digests a little more rapidly when treated with artificial gastric juice than does that of raw, pasteurized, or boiled milk. The protein in evaporated cream is almost entirely soluble in artificial gastric juice. Its total digestibility by this method compares very favorably with that of raw, pasteurized, and boiled milk. The small difference found was in favor of the evaporated cream. By means of natural digestion experiments with a child and with a man, the child was found to digest evaporated cream a little more completely than did the man. It was found that in the case of the child only 3.31 per cent, and in the case of the man only 6.81 per cent, of the entire solid matter of the food remained undigested. The total digestibility of the protein in evaporated cream, after making correction for the metabolic product in the feces, in the case of the child was found to be 98.48 per cent, or very nearly what was found by means of artificial gastric juice, namely, 98.89 per cent. With the man it was found to be 93.10 per cent. The butter, fat, and milk-sugar were both very completely digested and assimilated by the two subjects. The child digested 98.80 per cent of the fat and 97.78 per cent of the sugar. The man digested 95.84 per cent of the fat and 96.85 per cent of the sugar. The child digested nearly 18 per cent more of the mineral matter than did the man. This accords with the accepted theory that

a child requires more mineral matter in proportion to its body weight than does an adult, because its bones are growing and developing. The total energy or fuel value of evaporated cream is almost entirely available to the body. The child used 97.25 per cent and the man 94.59 per cent of the total energy contained in the evaporated cream which they used. The health of both subjects was normal during the experiments. The child gained in weight an average of about one pound a week and relished its diet. The man lost in body weight, but gained in protein to the amount of nearly one-third ounce of protein a day. Evaporated cream, like other forms of pure milk, is an economical article of diet, because its nutrients are practically all available to the needs of the body.

The Quick Curative Treatment of Gonorrhea.

F. A. Lyons (*Medical Record,* Nov. 4, 1905) reports a series of 400 cases of acute gonorrhea treated by the quick curative method during the last ten years, in 384 of which, that is, 95 per cent of them, the disease was cured in six days, and in about 80 per cent in twenty-four hours. This method was published by him ten years ago, and consists of injections into the urethra of one drachm and a half of solution of silver nitrate, at first in 4-per-cent strength, later in 2-per-cent and 1-per-cent strength. In most cases a single injection was sufficient. It produced little pain, and after it the gonococci had disappeared from the secretion. If they were still found the injection was repeated. When not cured by three injections the treatment was not continued. The method depends for its effect on the fact that early in the disease the gonococci lie entirely upon the outer layer of epithelial cells, multiplying on them, destroying their vitality and causing them to exfoliate. At this stage the microscope shows many gonococci on the epithelial cells. There follows congestion, afflux of serum, exfoliation of all the epithelium until the subepithelial tissue is laid bare. There will now be in the discharge few epithelial cells and many pus cells. At this time the gonococci penetrate the connective tissue. As long as there appear under the microscope epithelial cells studded with gonococci so long are the germs within reach of the germicide, and the case is amenable to quick treatment. The exfoliation of the epithelium caused by the silver nitrate only quickens the exfoliation produced by the disease and destroys the gonococci, and does no harm.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
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The Indications for Operating in Acute Mastoiditis.

P. D. Kerrison (*Medical Record,* Oct. 28, 1905) in discussing this topic says that the symptoms to be looked for when mastoiditis is suspected are mastoid pain with consequent insomnia; elevation of the temperature; certain quantitative changes in the character of the discharge; mastoid tenderness and bulging of the posterosuperior canal wall. The two symptoms usually considered pathognomonic are tenderness on pressure over the mastoid and bulging of the posterosuperior canal wall; but he shows that in either case these indications may prove deceptive. In acute purulent otitis media pus is probably always present in the antrum, giving rise to tenderness on pressure, but not necessarily indicating mastoiditis. The significance of this symptom varies with its position on the mastoid cortex, and becomes greater as it extends downward below the level of the floor of the antrum. Bulging of the posterosuperior canal wall is due to periostitis extending from the vault, and is not an indication of mastoid inflammation, which may or may not be present.

The following is in part the author's summary of the indications for operation: (1) Sudden cessation of the aural discharge, other symptoms persisting; deep-seated pain in the mastoid region; marked sensitiveness to pressure upon the mastoid over an area extending well beyond the limits of the antrum. (2) In the absence of fever the above symptoms, unless yielding promptly, *i.e.,* in twenty-four to forty-eight hours, to abortive measures. (3) Marked variations in the quantity of pus discharged; its maximum flow being apparently too great to be explained by the tympanic lesion; its periods of diminution being coincident with the development of mastoid pain or tenderness. (4) Mastoid tenderness having been present and having disappeared, a discharge from the tympanic vault which resists all rational non-operative measures. (5) Finally, evidences of mastoid involvement having been present, the development at any time during convalescence of symptoms of septic absorption. The paper closes with a report of two cases.

GYNECOLOGY AND OBSTETRICS.

Treatment of Abortion in General Practice.

F. Moebius (*British Medical Journal,* October 28, 1905) deals with the treatment of abortion in general practice. While he holds that the most rational and physiological method of treatment is the expectant treatment, he considers that this is only safe for the patient if she is in the hospital, and that such an expectant treatment as one would carry out must be fraught with danger if the patient is not continuously watched by trained medical practitioners. The bleeding may come on quite suddenly and profusely, and before the doctor can be with his patient it may be too late. The question to decide is how best to empty the uterus completely and rapidly. This must be done with the least danger and with the greatest possible protection to the patient. All instrumental methods are to be avoided. This applies equally to the curette, the abortion forceps, and all other instruments. He then proceeds to describe the method which he believes to be the safest to follow. When the os and the cervix are patulous to the finger, he immediately clears out the uterus digitally. When two or more fingers can be passed into the organ, the procedure is easy. If only one finger can be passed, the operation may be found extremely difficult, and then it is better to plug, and two or three days later the whole ovum may be found just behind the plugging. As a rule, however, the difficulty does not lie so much in the detaching of the placenta as in the emptying of the detached portions from the uterus. This can be secured by washing the cavity well out by a powerful irrigation, care being taken to avoid bringing air into the uterus. The finger should not be removed from the uterus until everything has been detached from the wall of the organ. If this is impossible, much care must be taken to disinfect the finger again before reinserting it. As soon as the uterus has been emptied the organ contracts powerfully. This may be taken as a guide as to when all has been removed. If the water returns clear on irrigating one may be sure that the organ is empty. When the os is scarcely or not at all dilated, one should plug the cervical canal, and if possible the uterine cavity. Vaginal plugging has disadvantages. It may induce pains, and the bleeding may soak through the packing. The only disadvantage of packing the uterus is the risk of sepsis, and this must be overcome by employ

ing well-prepared iodoform gauze and care in the plugging. The necessary instruments are: Two vulsella, a medium sized Sims speculum, an irrigation tube, a long pair of plugging forceps (Duhrssen's), and a catheter. The gauze should be kept in a special box, which can be held between the knees while one is plugging. For the cavity he uses gauze of 3 cm. (a little over 1 in.) in breadth, while for the cervix the breadth is 5 cm. (about 2 in.). The plugging may be left for forty-eight hours and the temperature carefully watched. In conclusion, he speaks of the uses of dilators, which he does not recommend as a routine treatment.

Extrauterine Pregnancy.

Chas. P. Noble (*New York Medical Journal*, Dec. 2, 1905) says that his experience with extrauterine pregnancy has impressed upon him two lessons: (1) A correct and early diagnosis can usually be made if the history of the patient is carefully elicited. The diagnosis depends as much upon the history as upon the results of physical examination. (2) If an early diagnosis is made, the patients can be operated upon while still in good or fairly good condition, with the result of securing a high percentage of recoveries. Deaths from extrauterine pregnancy are usually due either to the occurrence of hemorrhage so sudden and profuse that the patients are *in extremis* before operation can be performed, or else they are due to failure to make a diagnosis or to unwarrantable delay in resorting to operation.

Physiology of the New-born.

Landois (*Geburt. u. Gyne.*, Bd. 22) from his observations of fifty new-born infants during the first ten days finds that the mother is able to feed and satisfy the child after an average of 45.1 hours. The minimum is 9.8 hours and the maximum 72 hours. Primiparæ on the average satisfy the child in 43.8 hours, the minimum being 29 hours and the maximum 71 hours. Multiparæ average 39.7 hours, the minimum being 9.5 and the maximum 72 hours. The infant drinks during the first day about five grammes, the maximum being 50 grammes and the minimum 0 grammes. The child is as a rule able to suck about the fourteenth hour. Children in whom the umbilical cord has been tied late drink more than those in whom the cord has been tied early.

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AN OLD REMEDY COMBINED WITH A NEWER ONE.—The *Massachusetts Medical Journal* recently published the following, which will no doubt be interesting to our readers:

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"*Case 1.*—J. P., athlete. Suffering from an acute cold. On examination found temperature 101°, with a cough and bronchial râles. Patient complained of pain induced by constant coughing. Prescribed Antikamnia and Heroin Tablets, one every four hours. After taking six tablets the cough was entirely relieved. Patient continued taking one tablet three times daily for three days, when he ceased taking them, and there has been no return of the cough or pain.

"*Case 2.*—Ed. H., aged thirty. Family history—hereditary consumption. Hemorrhage from lungs eighteen months ago. His physician had me examine sputum; found tubercle bacilli. After prescribing various remedies with very little improvement, I placed him on Antikamnia and Heroin Tablets, prescribing one tablet three times a day and one on retiring. He has since thanked me for saving him many sleepless nights, and while I am aware he never can be cured, relief has been to him a great pleasure and one which he has not been able to get heretofore.

"*Case 3.*—Wm. S., aged twenty-eight. Lost 20 pounds in last thirty days. Consulted me July 9. I thought he most certainly would fall victim to tuberculosis. Evening temperature 101°, with night-sweats, and a very troublesome cough with lancinating pains. Prescribed 1-100 gr. atropine to relieve the excessive night-sweats and one Antikamnia and Heroin Tablet every four hours, with the result that he has entirely recovered and is now at work as usual.

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HYDROGEN PEROXIDE—HOW BREAKAGE OF BOTTLES CAN BE REDUCED TO A MINIMUM.—The greatest obstacle that lies in the way of producing a sound container for liquids occluding gases under high pressure, as, for instance, solutions of hydrogen peroxide, is the fact that no process for making unbreakable glass has yet been discovered.

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This device practically reduces the

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J. S. TYREE, - Chemist, - WASHINGTON, D. C.

danger of bursting of the bottles to a minimum. As long as the bottles having this device are kept in stock standing up, the pressure resulting from shaking, high temperature in course of transit, etc., will not rise much above four or five pounds to the square inch; and therefore, though occasionally a bottle may crack or burst, it is not due to pressure, but to the inherent imperfection of the glass, arising either from the lack of homogeneity, or else imperfect annealing, or both, to which we have already referred.

The worst feature of this unreliability in the bottle is that there is no accurate way of detecting it. A bottle may be submitted to a pressure of a hundred pounds to the square inch without betraying signs of weakness, yet even with nothing in it, it may burst or crack within an hour.

The only remedy in these conditions as to the bottles, and that is not absolute, is in changing the material from which the containers are made, and substituting, for the unreliable amber glass, a good article of flint glass. While, as we have intimated, this does not absolutely remove the danger of loss by explosion or cracking, it greatly reduces it, and when the flint glass container is closed by Marchand's Safety Valve Stopper, danger is reduced to a minimum, beyond which, in the present condition of the technics of bottle-making, it is impossible to go.

This is exactly what Mr. Charles Marchand, the manufacturer of hydrozone, glycozone, peroxide of hydrogen, etc., intends to do. Just as soon as his present stock of amber glass containers is exhausted, he will use exclusively flint glass, every bottle being corked with an automatic safety-valve stopper. By adopting these expedients, Mr. Marchand, having done all in his power to prevent breakage, can go only one step further—to make good any losses from that direction—replace the bottles that get broken from this cause. Beyond this it would be unreasonable to expect him to assume further responsibility. The actual danger to life or

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limb from the bursting of a bottle of hydrogen peroxide, or any of Mr. Marchand's preparations, is trivial, as compared with those arising from the explosion of bottles of beer, ginger ale, champagnes, and other sparkling wines, or even Apollinaris or other heavily aerated waters.

When any of these rupture the fragments are driven, not only with all the force and energy of the already liberated gases, but with the augmented energy of the residual gas suddenly set free, and so may inflict severe, sometimes irreparable, damage. The safety-valve arrangement in the stopper of bottles of hydrozone prevents the sudden disengagement of a great volume of gas.

Assuming that through some imperfection of the stopper the puncture should close as soon as the pressure from within rose to a point far within that required for the rupture of the bottle, the stopper, not being wired, but merely tied down, will be forced out.

But glass is a proverbially brittle and treacherous substance, and it is liable to break in the hands of anybody, at any moment, and without any discoverable or apparent cause, and that whether filled or not. As a consequence there must always be some risk attached to the handling of glass containers. The best that can be done, as we have suggested elsewhere, is to reduce the risk of rupture or fracture to a minimum, and this Mr. Marchand has done, not only by his safety stopper device, but also by the promised substitution of the stronger flint glass. The retail trade will, we are sure, welcome this latter change most heartily, since it completes and supplements the efforts made in the mechanical direction, and thus removes, as far as lies in human efforts, all danger arising from handling Marchand's goods.—Abstract from the *National Druggist*, Saint Louis, Mo., October, 1904.

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SEPTICEMIA.—Believing that the following case will be of interest to you as well as the medical profession—to you, because it proves the value of your preparation; to the physician, because it shows that our text-books sometimes err and because cases of this kind and at this stage are usually considered hopeless—I beg to submit the following report:

On June 21, 190—, I was called to see a lady who, according to the prognosis of her attending physician, could not live twenty-four hours. A subjective examination elicited the following history: Mrs. J. H., aged twenty-six, multipara. Previous health especially good. On June 5 she had been delivered of a still-born, full term, third child. For two weeks following she had experienced considerable pain through the pelvic region, with two slight hemorrhages, accompanied by very offensive lochia. On the 15th she had a slight chill followed by a decided rise of temperature, which had continued until, and was present at, the time I was called. Objective examination disclosed a temperature of 106 1/5° F.; pulse 158, very irregular; respiration jerky; tongue slightly coated; marked distention of the abdomen, and bowels constipated, no

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movement having occurred for several days.

It was a very clear case of septicemia, and if anything was to be done it must be done at once. Strychnine sulph. gr, 1/30 was administered hypodermically, and after cleaning out rectum and lower bowel, gave spts. frumenti and ammonia per enema. The patient was then rendered as aseptic as possible, and being anesthetized (ether being the agent used), was placed in the dorsal position with hips drawn well to the side of the table and thighs fixed and held. After a hasty digital examination placental forceps were introduced, and with the assistance of the middle and index fingers succeeded in removing about one-third of a decomposed placenta.

Owing to the lateness of the hour all drug stores were closed, and the only antiseptic I happened to have about my office was a bottle of Glyco-Thymoline. This being considered better than nothing, it was taken along; also some saponi viridi. After removal of placenta, the entire endometrium was gone over thoroughly and carefully with a sharp curette. The uterine cavity was then irrigated with Glyco-Thymoline and loosely packed with gauze soaked in the same solution, as was also the vagina, my object being to obtain its exosmotic effect as well as contraction of the uterine walls. Postoperative saline enema was given at 4 A.M., and cardiac stimulants reduced. Temperature at 8 P.M. was 103 2/5° F.

January 22, 8 A.M., temperature 102°, and at 8 P.M 101°. Dressing removed, and directed that vaginal douches of creolin one per cent be given every four hours.

January 23, 8 A.M., temperature 102°. Uterine dressing forceps well wrapped in gauze were passed over the endometrium to remove any blood-clots which might have been retained, and uterine irrigation with a 1:5000 solution of bichloride of mercury and followed with 95-per-cent alcohol, and then packed with gauze soaked in the alcohol solution—*i.e.*, "Practical Obstetrics, 3d Edition." Temperature at 8 P.M., 103 3/5° F.

January 24, 8 A.M., temperature 103 4/5°. Dressing removed and uterus irrigated with pure Glyco-Thymoline and packed with gauze soaked in same, as on first occasion. 8 P.M., temperature 102°.

January 25, 8 A.M., temperature 101 3/5°; 8 P.M., 100 3/5°. Dressing removed and again irrigated and packed with Glyco-Thymoline and gauze.

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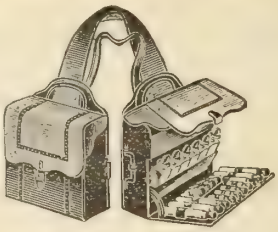

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January 28, temperature normal and remained so. Irrigation continued in conjunction with tampons of Glyco-Thymoline and ichthyol for two weeks.

Fifteen months later the patient was delivered by me of a full-term, eleven-pound child, and enjoyed a rapid convalescence.

Since then I have employed Glyco-Thymoline as an intra-uterine application in a great many cases, and cannot recall one instance where it failed to prove most satisfactory.—A. C. MUTTART, M.D., New York City.

ANUSOL IN THE TREATMENT OF HEMORRHOIDS.—In the case of patients suffering from piles, whether the hemorrhoids are newly formed or chronic in character, whether small or large, even up to large venous knots hanging from the rectum, and at times bleeding profusely, the medical man has found himself, as a rule, very much handicapped in their treatment, owing to the want of any thoroughly reliable method to satisfy the exigencies of the patient, by procuring an early and lasting cessation of the pain and an ultimate total disappearance of the disease, and also during the treatment to obtain at all times a soft and painless stool.

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tractable complaint, the oxyuris vermicularis of children, and of adults also, and in pruritus vaginæ, Anusol Suppositories generally effect a radical cure. In sores, too, of the external skin, whether of infants or adults, in intertrigo and prurigo, rubbed into the affected parts the supposi tory is an infallible remedy.

Space will not permit me to dwell too long upon the cases which I have treated with benefit by means of the Anusol Suppositories, but I will briefly give a summary of some cases in which a permanent cure has been effected by this remedy.

Case 2.—H. T. M., aged forty, Paris correspondent to one of the great daily newspapers, suffering from hemorrhoids of long standing and great severity, and accompanied with pruritus ani, came to me for the first time on January 30, and I ordered him to use one Anusol rectal Suppository each night at bedtime, and gave him a mixture of cuquinia, hyoscyamus, and digitalis. On April 30 he had completely recovered, and was able to return to his employment, but continued for a short time to take a 5 grain cuquinin tablet three times a day, to prevent any return of the weakness. He had previously been in the Hereford Hospital in Paris, and in another in this country, but did not get much relief until he began using the Anusol Suppositories.

Case 3.—Mrs. A., after parturition, suffered from a large hemorrhoid, accompanied by prolapsus ani; the only treatment was warm bathing of the affected part, with the use of Anusol Suppositories twice daily for six days, when they were discontinued, as they were no longer required, and there has since been no return of the complaint.

Case 4.—M. H., aged fifty-three years, insurance agent, suffering from piles of great severity and sensitiveness, with pruritus ani, after a great variety of treatment, hospital and private, was treated by me for a fortnight with Anusol Suppositories and an ichthyol pill every four hours, with entirely satisfactory results, and no subsequent return of the trouble.

JOHN MOIR, L.R.C.P. & L.R.C.S. Ed.

(Abstract from *The Therapist*, London, June 14, 1902.)

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Box 484, Detroit, Michigan.

DROPSY AS SEEN AND TREATED BY A COUNTRY PHYSICIAN.—The title of this article is not meant to be misleading in any sense of the term. Dropsy, to use a platitude, is dropsy, and this holds good wherever the condition is seen; yet in the country the physician has many difficulties and discouragements to encounter in the treatment of disease that his more favored city brother never dreams. In the country we experience great difficulty and delay in getting drugs that are necessary, and for which we are often experiencing the most pressing need. Then we have to take long rides through storms, snow, and so forth.

But a fig for all this. Let me tell how the state of affairs in the country affect the physician in his treatment of diseases, and in particular dropsy.

Most cases of dropsy that I have seen in my practice have been of the abdominal type; still often I am consulted by patients who have dropsical effusion in the pericardium. In fact I have seen all varieties of dropsy in the course of my practice. Those cases of dropsy seen in my practice have generally been very much pronounced. This is a fact which I have often thought the city physician did not know. In other words, I believe that patients in the city do not wait until they have dropsy of the most marked character before they apply for treatment. I cannot recall, at this writing, a case of dropsy I have ever treated that was not well advanced. The patient in most cases had been treated by "faith doctors," patent medicines, or some old woman who made a business of stewing up herbs and selling them to ignorant people. It is easy then to see the discouragement that hedges about the work of the country physician when he has to treat a patient who has dropsy. If a patient has pneumonia or typhoid fever we can expect him to send for a physician—these diseases hold him down, as it were, but when he has dropsy he can walk about, and he will allow the disease to go on, just trusting to luck, faith, or the herbs of an old woman who knows no more about botany than a horse. As a consequence of all these untoward influences our dropsy patients generally come to us very much broken in general health. They are, as a rule, markedly anemic and are greatly debilitated. It is very necessary in all instances to take this into account, as it is the practice of many physicians to ply these patients with strong cathartic drugs. With some of these patients such tactics would rapidly prove fatal. The writer recalls just at this moment a case which he saw in consultation, which illustrates the truth of what has been said. The patient had abdominal dropsy, and had been going the rounds. She had had the faith doctor, the herb woman, had taken enough patent medicine to swim a mule, and had, just now as the disease had taken on its gravest aspect, begun to send for physicians. The physician who was treating her, and who sent for me in consultation, had been giving her jalap and other purgatives. She was practically hopeless when I was called, the severe cathartics having swept away all the props upon which I could have hoped to build. I have learned from experience that these patients must have supportive treatment. The diet must be generous, and tonics and constructives are to be given regularly with a view to the uplifting of the physical condition of the patient. This, of

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J. S. TYREE, - Chemist, - WASHINGTON, D. C.

course, has to be conjoined with treatment appropriate for the dropsy *per se*.

As already hinted, I have cut out all the purgatives. My experience leads me to the belief that these severe agents tend to take the patient to another world, and this change of residence is brought about often in a gallop.

Now, brothers in the profession, let us all learn a few points. This severe purgation tends to put our patient out of the fight; often it does it almost as quickly as Corbett would put out an unscientific boxer. So let us cut out depressants, purgatives, etc.

Anasarcin is certainly a great medicine for dropsy, as I know by actual clinical test. It does not produce depression by severe purgation, but, on the other hand, relieves the condition which produces the greatest distress—the dropsical effusion—and tends also to remove the cause of the condition.

Below I give in outline some of the cases I have seen and treated with the remedy:

Case 1.—W. C., male, aged fifty, a farm laborer, applied for treatment of dropsy. His was general dropsy—anasarca. He was greatly swelled, and told me that if the distention became greater he felt sure that he would burst. This patient was allowed a generous diet, took tonics, and used Anasarcin for about eight weeks. At the end of this time my patient felt well, and has not had any recurrence of the disease.

Case 2.—This patient, a woman, negress, thirty years of age, had general dropsy that had been developing some time. She had also tried the faith doctors and the general tribe of fakes, but still the dropsy remained in evidence, and still her condition grew steadily worse. She was given Anasarcin tablets and made a speedy recovery, which has been found to be complete, as there is no tendency to recurrence of the dreadful condition in which I found her.

Case 3.—Mrs. S., aged forty-two. This patient was of the nervous temperament, and had often been the subject of

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ysterical attacks. I found her suffering with abdominal dropsy, and a weak, irritable heart, and to add to her sum of troubles she also suffered with constipation. I gave her strychnine to support her heart, and she took also a general tonic to build up her general health. To cure the dropsy she was put on Anasarcin tablets. This treatment proved successful in a very short time, and my patient is now up and about, and enjoys the comforts of life to a large extent, whereas only a brief while ago she was to the greatest extent an invalid.—W. T. STREET, M.D., Paulding, Miss.

RESINOL ART CALENDAR AND RECORD OF BABY'S DOINGS.—The new Resinol Art Calendar for 1905 is one of the most beautiful calendars ever issued. Six sheets of heavy enameled paper contain on one side six beautiful color designs of babies and children, while on the reverse sides are drawings depicting child life, with spaces for the notation of baby's "sayings and doings." It is a work of art that will delight a mother's heart. Sent post paid by the Resinol Chemical Company of Baltimore, Md., for two wrappers from Resinol Soap, or one wrapper and 15 cents; or for 40 cents a calendar and a cake of Resinol Soap will be sent.

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A CASE OF PNEUMONIA FOLLOWING SEVERE TYPHOID; RECOVERY.—(From a correspondent in Florida).—J. B. W., white, male, aged thirty years, was recovering from a severe case of typhoid. On the thirty-sixth day his temperature was normal. On the thirty-ninth day it again began to rise, and in a few days had reached 104.5°, the pulse 140. A severe cough and consolidation of the right lung told the story of a complicating pneumonia. After the long and severe drain upon his resources inflicted by the

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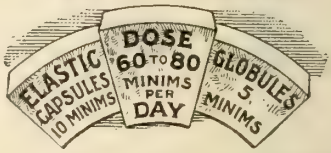

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typhoid his condition presented a very alarming, not to say desperate, situation.

Counsel was called, and it was decided that his only hope lay in the generous use of Antiphlogistine. A "Large" package was secured and heated by placing the sealed can in hot water. The temperature of the room was brought up to about 80°. A cotton-lined cheese-cloth jacket, open upon the shoulders and in front, was prepared and warmed. Uncovering the patient's thorax, Antiphlogistine as hot as could be borne was spread upon the skin about one-eighth inch thick over as much of the thoracic walls as could be reached (back, front, side, and over the shoulder). This was covered with the jacket. Turning the patient over, the other side was dressed in the same way. The jacket was then drawn together over the shoulders and down the front with stout thread. It is proper to say the entire contents of the 34½-ounce package (Large) was used for the one dressing.

The effect was surprisingly prompt. In a few hours the temperature had declined to a point of safety and the pulse to 120. A similar dressing was applied fresh every twenty-four hours. The improvement was steady and marked, and in six days the patient was again convalescent, thanks to Antiphlogistine.

The brilliant outcome in this case taught me the importance of careful attention to detail in the use of Antiphlogistine. Like everything else worth while, it must be properly used if the best results are to be obtained.

PEROXIDE SOLUTIONS IN OTOLOGICAL PRACTICE.—Bruder (*Revue Hebdomadaire de Laryngôlogie*) calls attention to the unpleasant results which have followed the careless use of peroxide solutions, or those of inferior and unreliable grade, in otological practice, such as diffuse external otitis, cerebral symptoms, suppurative phlebitis in the lateral sinus, etc. In one case fatal cerebellar meningitis followed the use of impure peroxide. The meatus should be smeared with vaselin before any form of peroxide is used,

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and if unpleasant symptoms follow the peroxide should be discontinued. In case of cholesteatoma, especially in operations on the mastoid, with sinus phlebitis and extradural abscess, the remedy should be used with great caution. With these restrictions the remedy can be profitably employed. The great point for consideration is the purity of the product, and ample evidence has shown that there are very few suitable peroxides on the American market. Dioxogen has the advantage of absolute purity with stability, found, probably, in no other peroxide, and in otological practice its use has been found not only efficient but absolutely safe.—*Chicago Clinic and Pure Water Journal*, January, 1905.

"PROVE all things; hold fast that which is good," is the ambitious motto of the Pullen-Richardson Company, manufacturing pharmacists of St. Louis, Mo. That this has been a guiding principle, not a meaningless phrase, is evident from the very enviable reputation which the firm has made for itself in the comparatively short time which has intervened since its establishment.

While this house markets a complete line of pharmaceuticals, of recognized purity, it is of its work in the manufacture of a number of exclusive specialties that particular attention is here directed. Prominent among these is Hemarobin, a tonic and reconstructive of undoubted value, especially in wasting diseases, anemia, chlorosis, etc., and in the period of convalescence from fevers and malarias. Another is Ricimel, a palatable preparation of cold pressed castor oil, adapted especially to the needs of children. In Casca-Aletris the company has a valuable agent combining cascara sagrada with a number of meritorious utero-ovarian sedatives. Santozea, each fluidrachm of which represents 20 grains of saw palmetto, santal, corn silk and couch grass combined with 5 grains of pure acetate of potash, commends itself to the physician in the treatment of all forms of inflammation of the urinary passages. It is prompt in action and notably palatable. An anti-rheumatic of more than ordinary efficiency is Manacaline, a scientific combination of manaca, tonga, black cohosh and gelsemium with pure crystallized sodium salicylate and colchicine. Still another meritorious product of the house is its Syrup Hypophosphites Compound (Pullen), which combines the hypophosphites compound with manganese, iron, quinine and strychnine, in per

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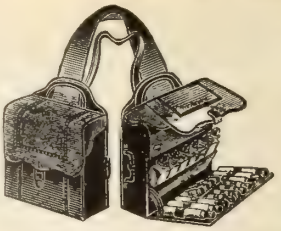

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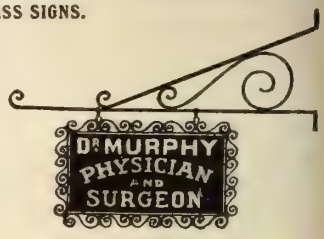

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HEMOSTATIC IN GENITO-URINARY PRACTICE.—Dr. Eduard Koegl, of Vienna, reports a most remarkable case of successful treatment in his genito-urinary practice. The patient was a man of seventy-nine years, who had been suffering for twenty years with prostatic hypertrophy, from which resulted a severe cystopyelitis, with grave symptoms of urosepsis of an intermittent character. He was also arteriosclerotic. As he had been suffering with complete retention for several months, catheterization was practiced four times a day. One day his nurse was greatly frightened by noticing that the urine passing through the catheter was strongly colored with blood. The doctor found the patient very excited and exhausted, and the bladder distended. The patient was very intolerant toward opiates, belladonna, and cocaine. Recourse was therefore had to injections of cold water, but the result was *nil*. The hemorrhage continued. Operation was thought of, but was considered a very doubtful procedure in view of the exhausted condition of the patient. The author then bethought himself of the hemo-

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static properties of stypticin, and shortly irrigated the bladder with 10-per-cent stypticin solution. When the water came away only slightly blood-tinged, he introduced into the prostatic urethra a suppository containing ½ grain of stypticin. Internally he gave two stypticin tablets every three hours. The result was very satisfactory. On the third day of treatment the hemorrhage ceased entirely and the urine became clear, thus demonstrating not only the hemostatic but also the antiseptic properties of the drug.

The author refers to several other cases, and says that the highly satisfactory results of stypticin as a local and internal hemostatic and antiseptic should induce the profession to try it in all appropriate cases.—*Monatsb. f. Urologic*, 1904, No. 2.

Sid. Black, of Indianapolis, with a friend, made an automobile record between Indianapolis and Cincinnati recently. Mr. Black, driving an Oldsmobile Runabout, left Indianapolis at 3.30 in the afternoon and reached Cincinnati at exactly 12 o'clock at night—139 miles in eight and one-half hours without a stop of any kind. At Richmond, Indiana, they took on two gallons of gasoline and water without getting out of the runabout and without stopping the wheels. The engine never skipped an explosion on the entire trip. Six and one-half gallons of gasoline was used.—*News Item.*

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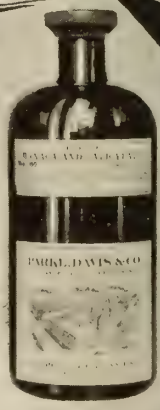

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IRON THERAPY IN THE TREATMENT OF SMALLPOX.—As far back as 1893 my attention was first called to Pepto-Mangan (Gude). But it was not until the spring of 1895, when I was appointed Superintendent of Quarantine and Smallpox Hospital at St. Louis, that I had opportunity to test thoroughly its merits.

Upon my entrance to the aforesaid institution I found 118 patients in various stages of variola. The sanitary conditions were not of the best, consequently septicemia, pyemia, boils, and abscesses were of frequent occurrence; in fact, one ward of some 25 odd beds was used exclusively for this class of patients.

In my endeavor to combat this condition of affairs, my mind of necessity reverted to the iron preparations. After using iron in its numerous forms, I found it entirely too astringent and acid to exhibit for any length of time.

It was at this time that my previous experience with Pepto-Mangan (Gude) led me to make some experiments to ascertain for my own benefit the actual value of iron and manganese in these conditions.

After several months' continuous examination (microscopical) I found that in all cases of variola the hemoglobin was diminished to less than 42 per cent, and the red blood-corpuscles were diminished to such extent that the actual average count in some 85 cases was less than 2,273,000. After four weeks' treatment (the general average time patients were confined to the institution) the hemoglobin had increased 50 per cent and the red bloods cells 46 per cent. Believing that these cases were exactly suitable and amenable to treatment by Pepto-Mangan (Gude), provided it would do what was claimed for it, I decided to exhibit it exclusively and prove the results by actual demonstration in the increase of the hemoglobin percentage and the increase of the number of red blood-corpuscles.

The similarity of these cases of necessity makes the history of one the history of all. For this reason I will not burden my readers with a repetition of a number of cases, but will confine myself to a few exceptional cases.

Case 1.—Aged 17; diagnosis variola confluens, followed by a general pyemia. Period of treatment twenty-four weeks. First count 2,323,000, hemoglobin 42 per cent. Second examination, after eight weeks, red blood cells 3,722,000, hemoglobin 58 per cent. Third examination, sixteen weeks, red blood cells 4,122,000, hemoglobin 67 per cent. Fourth examination, red blood cells 4,899,000, hemoglobin 79 per cent. Result, cured.

Case 2.—Aged 25; diagnosis, variola semiconfluens, followed by puerperal septicemia. Period of treatment, fifteen weeks. First count, 3,123,000 red cells, hemoglobin 62 per cent. Second examination, red cells 5,325,000, hemoglobin 89 per cent. Result, cured.

Case 3.—Aged 16; diagnosis, variola semihemorrhagic, uncomplicated. First examination, red cells, 2,824,000, hemoglobin 42 per cent. Period of treatment, six weeks. Second examination, red cells 4,376,000, hemoglobin 83 per cent. Result, cured.

Case 4.—Aged 10; variola discreta with scarlatina, both infections occurring simultaneously, a most malignant and rare disease. In this double infection the anemia and depression were profound. First examination, red cells 2,036,000, hemoglobin 28 per cent. Period of treatment, eight weeks. Second examination, 5,102,-

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000 red cells, hemoglobin 88 per cent. Result, cured.

At the beginning of my first term as Superintendent of Quarantine the mortality was 21 per cent. In twelve months it has been reduced to 9 per cent, and in the last year of my incumbency there were but sixteen deaths in 1749 cases, showing the very low mortality of less than one per cent. It may not be generally known, but it is a fact, that death occurs in variola during the time that absorption begins to take place, which is about the twelfth day of the eruption.

Now if by administration of drugs the percentage of hemoglobin and the number of red blood cells can be brought anywhere near the normal before this period of absorption takes place, we of necessity increase the power of resistance tenfold.

I would not like to be understood as saying that the mere use of Pepto-Mangan caused the remarkable decrease in the mortality at our institution, though I am quite sure that it played a major part in producing the result.

During my incumbency as Superintendent at Quarantine Hospital I had under my sole care a case of leprosy, which was finally pronounced cured after no recurrence had taken place for a year after a total abeyance of all symptoms. From first to last in the treatment of this case Pepto-Mangan was used as a tonic and reconstructive. The blood count was never made in this case at any time.

Eight years of my time was devoted exclusively to this institution, and I treated personally some 4000 cases, and that my faith in Pepto-Mangan, as the very best treatment in variola, had not diminished one iota is exemplified by the purchase of quantities just prior to severing my connection with the smallpox hospital.

Before bringing this article to a close, I wish to make it plain that constipation throughout the entire course of variola is a contending factor. For this reason preparations of iron, which would further aggravate this condition, are contraindicated. At no time did I find this to be the case where Pepto-Mangan was administered.

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stability of the preparation. In my twelve years' experience with this preparation I have never found a single bottle with the least particle of precipitate. Last, but not least by any means, it being a perfectly neutral solution, it can be taken indefinitely without the least fear of injury to the patient's teeth.—MARTIN C. WOODRUFF, M.D., St. Louis, Mo., in the *American Therapist* for June, 1904.

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Yours very truly,
GEO. STANKAITIS.

LA GRIPPE AND ITS SEQUELÆ AGAIN PREVALENT.—The following suggestions for the treatment of la grippe will not be amiss at this time, when there seems to be a prevalence of it and its allied complaints. The patient is usually seen when the fever is present, as the chill, which occasionally ushers in the disease, has generally passed away. First of all, the bowels should be opened freely by some saline draught. For the severe headache, pain, and general soreness give an Antikamnia Tablet, with a little whiskey or wine, or if the pain is very severe, two tablets should be given. Repeat every two or three hours as required. Often a single dose is followed with almost complete relief. If, after the fever has subsided, the pain, muscular soreness, and nervousness continue, the most desirable medicine to relieve these and to meet the indication for a tonic are Antikamnia and Quinine Tablets. One tablet three or four times a day will usually answer every purpose until health is restored. Dr. C. A. Bryce, editor of the *Southern Clinic*, has found much benefit to

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result from Antikamnia and Salol Tablets in the stages of pyrexia and muscular painfulness, and Antikamnia and Codeine Tablets are suggested for the relief of all neuroses of the larynx, bronchial as well as the deep-seated coughs, which are so often among the most prominent symptoms. In fact, for the troublesome coughs which so frequently follow or hang on after an attack of influenza, and as a winter remedy in the troublesome conditions of the respiratory tract, there is no better relief than one or two Antikamnia and Codeine Tablets slowly dissolved upon the tongue, swallowing the saliva.

LASALLE CO., Ill., Jan. 29, 1902.

A. A. Marks, New York City:

DEAR SIR—My arm was amputated last May on account of blood poison. I went to the Pan-American Exposition to see what firm made the most useful arm. After looking over the different kinds I ordered one of yours and am pleased to say that it has given me the best satisfaction. The arm fits perfectly, and I now wear it. It has been a great protection to the nerves and has certainly contributed to my health. I have gained fifteen pounds since I commenced wearing it.

G. P. WAKEMAN.

NO MORE POULTICING IN THE U. S. ARMY.—The *Virginia Medical Semi-Monthly* says: "In a recent notification by the Surgeon-General of the U. S. Army, it is asserted that all the good results from poultices can be obtained in a more cleanly way by the use of wet, hot compresses. Hence the order to the army surgeons to drop linseed and linseed meal from army medical requisitions."

We highly approve of this order as far as discarding poultices made of putrescible and bacteria-breeding materials is concerned, for that is what has been done by all up-to-date physicians in private practice, but we can hardly recommend the substitute offered. We supposed that every one in this enlightened age was using Antiphlogistine in all such cases because of its advantages over everything

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else in permanency, efficiency, and cleanliness. Compare Antiphlogistine, renewed but once a day, with hot compresses renewed every twenty minutes, and we cannot imagine any one using compresses when Antiphlogistine is available.

TREATMENT OF GENITO-URINARY TROUBLES.—Cystitis being the most frequent of the chronic inflammations of the urinary tract, we may take it as an example for consideration. My experience with hundreds of these cases taught me to always examine the urine closely. From a therapeutic standpoint, we are not interested so much as to just where the irritation is located as we are in what will cure the patient. In these cases I have prescribed cystogen, which has a direct action upon the mucous membrane of the genito urinary tract. Formaldehyde is liberated in the urine, and the whole tract, from the glomerulus of the kidney to the meatus, is bathed with a solution of formaldehyde, thus preventing the formation of pus, allaying irritation, and overcoming decomposition. Cystogen aperient was prescribed in many cases. This is an effervescent salt of cystogen, containing phosphate of soda, and its administration was followed by marked improvement in all cases. Cystogen aperient should be prescribed when a laxative is desired in connection with the therapeutic effect of the drug.—BROSE S. HORN, M.D., in *Charlotte Medical Journal.*

LOGAN CO., Ohio, Feb. 5, 1902

A. A. Marks:

DEAR SIR—I have been going to school ever since I received the artificial arm you made for me. I use the implements to advantage. I would not care to do without the arm for anything. When I get home from school I slip the hand out of the socket and put in the hook and go about helping my father.

Yours truly,

HARRY E. JOHNSON.

IMPAIRED DIGESTION OF INFANTS, PARTICULARLY BOTTLE-FED BABIES.—The first few months of the baby's existence are fraught with much anxiety to both mother and physician.

The stomach, just beginning the functions for which it was created, is somewhat loath to accept the changed conditions; it frequently rebels at having to

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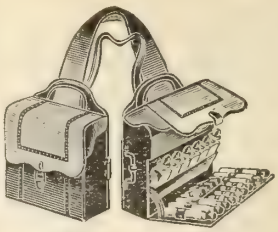

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perform the act of digestion as it should, and rejects the food committed to its care.

Sometimes the cause of this rejection may be overfeeding, but much more frequently it is due to hyperacidity caused by fermentative changes in the food itself.

Particularly is this true of bottle-fed babies, and in the trials of food necessary to discover the one that best agrees with the baby much time is lost and much worry is caused.

The very nature of artificially prepared foods predisposes to their rapid fermentation, and the progress of digestion is begun before the food leaves the laboratory.

Added to this condition is that of slight uncleanliness, which frequently exists in spite of the persistent use of boiling water in the bottle, tube, and nipple. Even a strong solution of borax or bicarbonate of soda is not sufficient to thoroughly remove the particles of food, and prevent the excessive fermentation and its sequelæ, namely, colic, vomiting, and diarrhea.

The only rational method of treating this dreaded condition is to assist nature in her efforts to establish a normal process of digestion, and overcome the too active fermentation taking place in the stomach and intestines. Investigation has shown that these abnormal conditions may be readily overcome, and normal conditions restored by the internal administration of Glyco-Thymoline in small doses, and its further use in cleansing the tube, bottle, and nipple.

Ten drops of Glyco-Thymoline added to each two ounces of feeding will usually be sufficient to correct hyperacidity and prevent diarrhea, but larger doses are necessary in cases where diarrhea has already set in.

That Glyso-Thymoline does all that is claimed for it in this class of cases was conclusively proven to me last summer by the results I obtained in three cases of fermentative indigestion, which for some time gave me considerable trouble.

Case 1.—An infant, fourteen months

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old, fed on a modified cow's milk, suffered from vomiting after feeding, eructations of gas, and colic, which persisted until relieved by the passing of wind; vomited matter very sour-smelling. The diarrheal movements were attended by pain and contained mucus of a greenish color. All the symptoms pointed toward an intestinal fermentative indigestion.

I had used several remedies in this case, with indifferent results, when my mind recalled the peculiar action of Glyco-Thymoline on engorged and inflamed mucous membranes, and I immediately prescribed it, ordering ten drops to be put into each two ounces of food, the bottle and nipple to be washed with a 25-per-cent solution, and the nipples, when not in use, to be kept soaked in Glyco-Thymoline of full strength.

The effect was immediate. Within tweve hours there was a decided improvement, and within twenty-four hours all the serious symptoms had entirely disappeared and a normal condition was restored.

Case 2.—Child, almost two years old. Fed on milk, cereals, and carefully selected diet. The symptoms were much the same as in the above described case, but the diarrhea was more severe and tenesmus and pain more marked, with bloody stools, apparently a severe dysentery. Microscopical examination of the stools showed the presence of a fungus of the yeast plant variety.

The colon was flushed twice daily with Glyco-Thymoline solution, two tablespoonfuls to a pint of water, by high rectal tube, and a teaspoonful of Glyco-Thymoline by mouth every four to six hours. This was followed by marked improvement in every way.

I have given Glyco-Thymoline internally and by rectum in other cases, but the above are good samples of what Kress & Owen's preparation will do. It has become one of my "sheet-anchors" in the treatment of intestinal disorders, both in babies and older people.—F. H. MUNROE, M.D., Newark, N. J.

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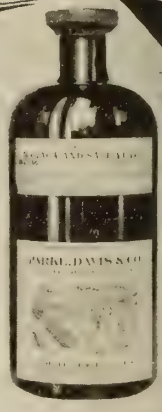

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The United States Civil Service Commission announces an examination on April 26 and 27, 1905, to secure eligibles from which to make certification to fill a vacancy in the position of physician (female) in the Government Hospital for the Insane, Washington, D. C., at $1500 per annum and quarters, and vacancies as they may occur in any branch of the service requiring similar qualifications.

Only unmarried women will be admitted to this examination.

The examination will consist of the subjects mentioned below, weighted as indicated:

Subjects	*Weights*
1. Letter-writing (a letter of not less than 150 words on one of two subjects given)	5
2. Anatomy and physiology	5
3. Chemistry, materia medica, and therapeutics	10
4. Bacteriology and hygiene	10
5. Surgery and surgical pathology	15
6. Obstetrics and gynecology	15
7. Mental diseases	20
8. Experience (rated on application)	20
Total	100

Applications will be received from graduates of recognized medical schools. Credit will be given for experience obtained in a professional capacity in institutions for the care of mental diseases, in general hospitals, and in the actual performance of surgical operations and the care of operative cases.

Two days will be required for this examination.

Age limit, 25 to 40 years on the date of the examination.

This examination is open to all citizens of the United States who comply with the requirements.

Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at any place mentioned in the list for application Form 1312. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

As examination papers are shipped direct from the Commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will, therefore, arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

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THE Frank S. Betz Co. will leave their present building about May 1, and will move to their new Plant at Hammond, Indiana. They leave a building a block long to go into a new building occupying over four acres of ground space. They have nearly 12 acres of land at Hammond and over one thousand feet of switch track which is connected with the Belt line, and can make shipments over this line much more promptly than in their old place; in fact, they can save from one to two days' time in sending out goods to their customers.

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"Were an offer of this kind made in an other line of business there would not b a man who would not take the outfit o these terms.

"Blech's work on the diseases of wome and Massey's complete work on the sam subject included in each outfit for $4 The plate will be in oak case finely fi ished, wired for cells of 110 V. direct cu rent; 40 Dry Cells, $5.60, or 40 Laclenc glass cells, $10.80. Would you inves $350 or $500 for a complete office outf if it would bring you in from $10 to $2 daily? If so, write me at once and mar your envelope 'Personal,' and I shall h

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In those cases of INDIGESTION in which there is fermentation of the contents of the alimentary canal, with pain, sense of fullness, borborygm and eructations, there is no remedy that will give such prompt and complete relief as **EUSOMA** (Echinacea Compound). This statement can readily be verified by the use of the sample which we will send upon request.

EUSOMA is an ethical, non-secret preparation, and contains in each fluid dram, Echinacea Angustifolia, 15 grains; Thuja Occidentalis, 2 grains; and Baptisia Tinctoria, 4 grains. It is a perfect, non-poisonous antiseptic and alterative for both external and internal use.

All septic conditions are promptly and favorably influenced by the internal administration of **EUSOMA**, which has well been termed the "great corrector of blood dyscrasia."

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g to the advancement of the therapeutic
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ATTENTION is directed to the an-
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this issue, together with a half-tone
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y equipped, modern, and commodious.
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is conducted on strictly ethical principles, and practitioners may entrust patients to it with full assurance that the care and treatment received will be adequate and conscientious. The Sanitarium invites requests from physicians for literature descriptive of its methods.

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In the great majority of cases of hemorrhoidal disease the final and immediate cause is to be found in the accumulation and impaction of fecal matter in the lower section of the large intestine. To remedy the affection this morbific factor must be removed, and for this purpose especially

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Anusol softens and dissolves the contents of the rectum and effects easy, painless defecation, the accumulated fecal masses being passed in a slimy or porridge-like form. Thus it obviates the difficult and straining evacuation which so often proves a potent factor in causing venous stasis and subsequent hemorrhoidal dilatation. This peculiar laxative action—possessed by Anusol alone—plays a most important rôle in the therapeutics of the drug.

Anusol Suppositories are especially efficacious in the hemorrhoids that so frequently appear during pregnancy and the puerperium. They are also employed with most excellent results in all catarrhal affections of the rectal mucosa, carcinoma of the rectum, in chronic proctitis, intestinal tuberculosis, fissure of the anus, local ulcerations, etc.; and have been administered with remarkable success for relief of constipation, dysmenorrhea, tenesmus, thread-worms, vaginitis, pruritus ani and vaginæ, prostatic hypertrophy, and all pruriginous and painful conditions of the rectum and adjacent organs.

The inflammatory hyperemia and excessive secretions of wounds, varicose ulcerations, etc., are quickly relieved by rubbing a suppository over the affected parts. In the costiveness of children, when it is due to atony of the lower bowel it is to be preferred to the soap or glycerin suppository on account of its healing and sedative effect; and it may be used in the place of dusting powders and salves.

THE *Medical Herald*, St. Joseph, Mo., advises physicians to try Eusoma (Echinacea Compound) in cases of eczema which have long resisted treatment.

The affected part should be carefully cleansed of all scales and crusts, and then covered with a soft cloth and kept moist with a mixture of equal parts of Eusoma and water. The internal treatment s

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ssential, and this, so far as drugs are oncerned, may be limited to one tea poonful of Eusoma four times daily. he patient's condition should be care ully studied and all sources of irritation emoved.

IRON AS A REMEDY.—Time out of mind ron has been leaned upon as one of the pecial standbys in medicine, particularly s a builder and reconstructor. But unless iron be given in proper form, one night as well give absorbent cotton, or hips, or wet stones. When we desire to roduce any increase in the number of red lood-corpuscles, and to make them red ter and richer with hemoglobin, we need be sure of the form of iron that we are giving. The evidence has been accumulating these many years, that manganese, n itself an admirable remedy, combined with iron emphasizes the potency of both.)r. Gude, the great German chemist, contributed very definitely to the good of the rofession, when he presented the product f long years of experimentation, and linical experience, the therapeutic prod ct known as Pepto Mangan (Gude).

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"Pepto-Mangan contains iron and manganese combined with peptone in the proper proportions, and in a readily digestible and absorbable form, so that the preparation can be completely utilized by the organism. As is well known, the peptones represent artificial predigested products, which when taken into the organism make no special demands upon the digestive functions, which in anemic and chlorotic persons are usually weakened and impaired in action. This fact is the more important, since in these cases the digestive process and the secretion of gastric juice is usually reduced, in consequence of which the nutrition is quite impaired, while frequently there is a condition of hyperacidity of the gastric juice. It has been most gratifying to me to observe that during the use of Pepto Mangan (Gude), which experience has taught me is particularly adapted in these maladies, it does not interfere with, or exert any disturbing effect upon, the digestion. On the contrary, under its administration, the appetite and the digestion are stimulated in a very satisfactory manner.

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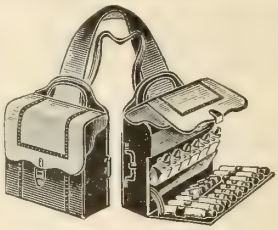

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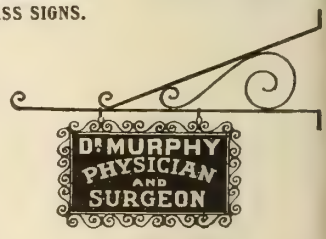

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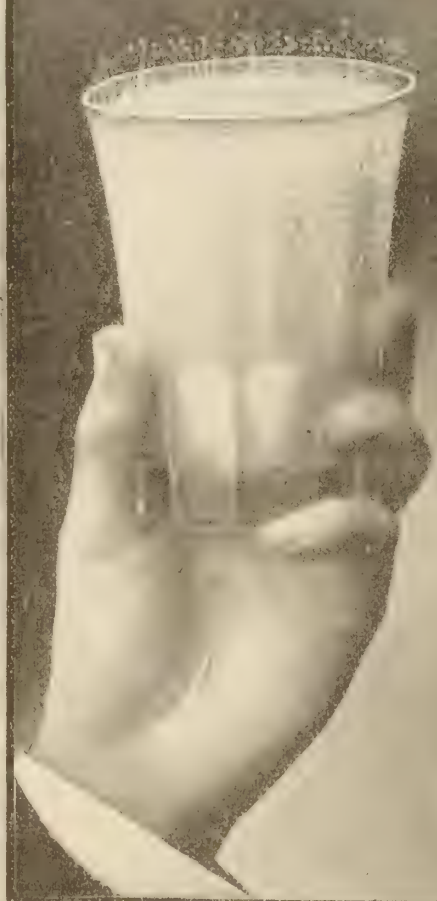

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THE *Medical Herald*, St. Joseph, Mo., advises physicians to try Eusoma (Echinacea Compound) in cases of eczema which have long resisted treatment.

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NATURAL SLEEP.—The treatment of sleeplessness in this generation has become somewhat simplified, because it is now recognized as a symptom and not as a distinct disease. It appears in such various phases and is associated with so many disorders that it is conquered with difficulty. But whether the defect is functional or structural it demands correction. It is a mistake to employ sedatives or hypnotics indiscriminately. First of all it must not derange the assimilative system; it must have no depressing effect on the heart and blood-vessels; and it must be palatable.

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THE USE OF GLYCOZONE IN A FEW GYNECOLOGICAL CASES.—It is surprising how physicians fall into habits regarding the use of certain agents in their practice, and how loath they are to resort to something new. No doubt this fact exemplifies the maxim: "Be not the first by whom the new is tried, nor yet the last to lay the old aside." This saying, were it put into active practice, would interdict the use of any new drug or remedy, as from the very nature of things a leader must be acknowledged, and that leader would himself violate the above maxim. In the treatment

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of uterine and ovarian diseases the well-known glycerole of tannin tampon, or the use of glycerin and Goulard's solution, or glycerin with other astringents, has been for years recognized and appreciated by gynecologists over the entire world. In the clinics solutions of these agents are ever at hand, and habitually are ensconced into the vaginal canal with very little regard as to the scientific results that will accrue. It has often occurred to the writer that many of the solutions used by gynecologists favored the development of bacilli, and no doubt contributed to the lighting up of attacks of pelvic peritonitis so frequently encountered by gynecologists. Glycerin no doubt is without a peer in successfully treating a long range of diseases that afflict women, as the well-known hygroscopic qualities of the remedy bring about a local bloodletting from the hyperemic structures which, when followed by hot douching, is usually relied upon to reduce many inflammatory complications of the uterus and its adnexa. Not being satisfied, for the reasons above given, with the usual formulæ of glycer in gynecology, a sample bottle of glyc zone which came to my desk sever months ago, although not referred to the treatment of diseases of women, a pealed to me. Accordingly, in view of t highly oxygenated properties of the re edy, which I believed would necessari possess bactericidal properties, I was i duced to try glycozone in my gynecolog cal practice; the results were so pr nounced, and the beneficial influence the remedy so decided and permane that I have for several months past persis ently resorted to glycozone in preferen to anything else in my local work. I w outline the following clinical cases as i dicating its usefulness in the conditio stated:

Case 1.—Subinvolution uteri cons quent to miscarriage. Miss Ella McL aged twenty-eight; suffered a miscarria of the first application measured five a a severe fall from her carriage. T bleeding was severe until the placenta w entirely removed, when it ceased. Erg

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s used regularly to check a tendency recurrent and continuous hemorrhage, ich necessitated the employment of local atment. Curettage was first employed, uterus thoroughly washed out with bolic solution, and then a cotton-wool npon of glycozone pure pushed up to cervix uteri. The uterus at the time the first application measured five and half inches in depth, subinvolution of organ being most marked. On the ond day the tampon was removed, and uterus found to have become reduced size at least one inch, its depth measur- four and a half inches, very much to surprise. In the next twenty-four urs following the glycozone tampon re was but little evidence of further re- ction—the depth remaining about the ne. Twenty-four hours later, however, uterus showed a decline in depth of a lf-inch, and this beneficial influence of glycozone continued unremittingly reafter, until at the end of eight days uterus measured but two and a half inches, and the cure of the patient was complete.

Case 2.—Erosion of the cervix resembling epithelioma. This case occurred in a married woman, aged thirty-five, the mother of four children. The ulcer of the cervix had a most suspicious appearance, involving the left half of the neck and passing upward on the cervix proper; it was in size about as large as a ten-cent piece. My first impression was a possible venereal sore, but the lady and her husband were both people entirely above reproach, and this theory could be very readily exploded. I accordingly suspected it might turn out to be an epithelioma. There was no glandular involvement in the inguinal regions or elsewhere, and I concluded to try glycozone on the tampon for a few days, more to determine whether the ulcer would respond to its use than anything else. I told the lady to return the following day, and my surprise and satisfaction were great to note the eroded surface reduced fully one-half its

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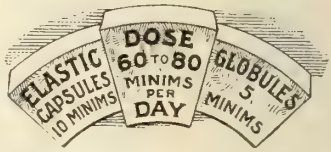

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original size. Encouraged by my success with glycozone I reapplied the agent, and had the lady return in two days; but slight evidence of the cervical denudation was remaining, and upon the lady's next visit to my office I discharged her, entirely cured of the formidable appearing ulcer.

Case 3.—Gonorrheal inflammation of the cervix uteri, and extension to the endometrium. This case occurred in a young woman of the sporting fraternity, who at the time of her first visit to me insisted that she had never experienced any evidence of venereal disease previously. An examination with the speculum revealed considerable purulent secretion emanating from the vagina, and the blood-vessels of the adjacent parts greatly congested; the cervix uteri was denuded over its entire circumference adjacent to the os of its epithelium, looked angry, and bled readily during the examination; also, from the uterine canal thick pus was freely emanating. A microscopical examination disclosed large numbers of gonococci. The vagina was first deluged with a hot bichloride solution one to three thousan the uterine cavity was also cleansed wi the solution, no difficulty being expe enced in inserting the uterine douche ir the cervical canal, and efficiently irrig ing the endometrium. Following this p cedure pure glycozone was injected ir the uterus by instillation, and the sa remedy freely applied on absorbent c ton to the entire vaginal walls and the c vix uteri, after which a cotton tamp saturated with glycozone was left in pc tion. The vaginal gonorrhea was quicl dissipated in three treatments, but it quired three weeks to effect a cure of t disease that had invaded the en metrium. This was, however, acco plished most effectively without the tu becoming involved, and the patient ma a recovery very much unlooked for by at the time, as the view of Noeggerath the inability to cure gonorrhea of the dometrium is well known to every phy cian. This patient was certainly cured, the microscope failed repeatedly to f gonococci. The good results I attrib

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irely to glycozone, as I used no other al means but the bichloride of mercury uches, which certainly assisted in the cessful outcome.

Case 4.—Cervical laceration following trumental delivery. This lady, who was out twenty years of age, whose pelvis s slightly kyphotic, gave me great dif lty in delivering her of a comparaely large child by means of forceps. e waters ruptured prematurely, and the th was distinctly of the dry type; toard the end the pains became very feeble, l without any reason the patient had a d convulsion. The os uteri was suffintly well dilated to apply the forceps, l the child was removed, but the cervix ri lacerated from side to side. The t was at once sewed up with catgut sues, and good union brought about. bsequently, however, the lady consulted for a rather profuse leucorrhea, which n examination I found emanated from uterus, which was subinvoluted, over r inches deep, and no doubt resulted m the cervical rent. Glycozone was once applied upon a wool tampon, and er about four such applications the dis bance was entirely eradicated.

Case 5.—Retroflexion uteri, with prolapsus of the ovary in Douglas's cul-de-sac. This patient, who was the mother of a large family of children, slipped one morning while descending the stairs in her home, being in the family way, in the third month of pregnancy, fell upon her nates, promptly aborting. The placenta was readily extracted, but the fundus uteri was found a few days later to be in the posterior cul-de-sac; an examination with the finger showed the ovary pulled down, with the fundus in its abnormal position. Readjustment of the prolapsed structures was attended with so much pain that it was deemed inadvisable to accelerate matters. Accordingly pure glycozone was pushed up in the posterior vaginal sac on a tampon, and left *in situ* over night. The following morning all tenderness had disappeared, and the patient being placed in the genu-pectoral position, the displaced organs were readily reduced; a second tampon of the glycozone not only removed whatever tendency to hyperemia existed, but likewise the tampon supported the structures. No recurrence resulted, and the lady was restored to her previous state of health.

Case 6.—Chronic endometritis with profuse leucorrhea. This case was one of

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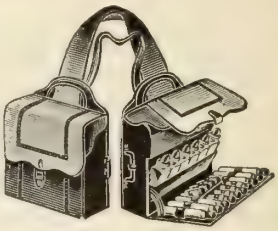

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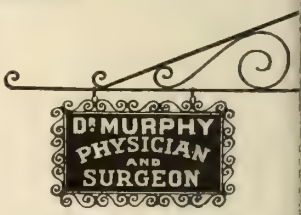

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long standing; the lady had been treated by several physicians not only in connection with a hospital but on the outside, and curettage had been twice performed, the old trouble invariably recurring. I concluded it would be a good case to test the instillation treatment of glycozone upon, and accordingly used this remedy alone in that manner, together with its local application upon the tampon to the cervix uteri. This lady improved at once, and after the very first application. I had her under my care, and reapplied the remedy for about two weeks all told; she not only recovered absolutely during the time stated, but over three months have now elapsed with not the slightest evidence of any recurrence of her former difficulty. I could report many other cases of the utility of glycozone in diseases of women, and I use the remedy to the exclusion of others where particularly glycerin is indicated. It surely will bring about results that cannot be obtained by the use of anything else, and I feel certain that a tri will satisfy the most skeptical of its meri —C. H. POWELL, A.M., M.D., St. Lou Mo., Prof. Principles of Medicine a Clinical Medicine, Barnes Medical C lege, St. Louis, Mo.; Alternate Physici St. Louis City Hospital; Physician Charge Oblate Sisters of Providence Ho pital; Centenary Hospital, Departme Diseases of the Chest, Etc. (Abstra from *New England Medical Monthly.*)

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ce in an endless variety of diseases and mptomatic affections, such as the neu-lgias, rheumatism, typhoid and other vers, headaches, influenza, and particu-rly in the pains due to irregularities of enstruation. Antikamnia has received ore adverse criticism of a certain spite-il kind, particularly directed against its rigin—and because of its success—than ny other remedy known; critics have emed personally aggrieved because of its merican source, and that it did not em nate from the usual "color works," but eir diatribes have fallen flat, as do most rsecutions and unreasonable and petty ejudices. The fact stands incontrovert le that Antikamnia has proved an excel-nt and reliable remedy, and when a phy-cian is satisfied with the effects achieved usually holds fast to the product. That the secret and mainspring of the Anti-mnia success. It is antipyretic, anal-sic, and anodyne, and the dose is from to 10 grains, in powder, tablets or in konseals, taken with a swallow of water or wine. When prescribing Antikamnia, particularly in combination with other drugs, it is desirable to specify "in kon-seals," which are rice-flour capsules, affording an unequaled vehicle for admin-istering drugs of all kinds.

RESINOL CURES PERMANENTLY.—Owing to the excellent effect of your Ointment and Soap I feel in duty bound to write you. My little nephew was troubled with eczema for about two and a half years and was one of the greatest little sufferers imaginable. From the be ginning of this disease he was under the best medical attention procurable, but re-ceived only temporary relief. I insisted on giving the Resinol remedies a test, and I am pleased to say they effected a cure, and the little fellow has enjoyed his sleep for the past three years and con tinues in good health. DR OTTO B. PRICE, Moncton, N. B., Canada.

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SOLUTION
ADRENALIN
CHLORIDE
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A solution of the blood pressure raising principle of Suprarenal gland.
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Very truly yours,
THE BUSINESS MANAGER,
Box 484, Detroit, Michigan.

HOSPITAL INTERNE (MALE).

EXAMINATION FOR PANAMA CANAL.

July 12-13, 1905.

The United States Civil Service Commission announces an examination on July 12-13, 1905, to secure eligibles from which to make certification to fill vacancies in the position of hospital interne under the Isthmian Canal Commission on the Isthmus of Panama.

Two days will be required for this examination.

As an insufficient number of eligibles resulted from the examination held on January 18, for this position, qualified persons are urged to enter this examination.

Men only will be admitted to this examination.

Each applicant for the Isthmian Canal Service will be required to submit to the examiner, on the day he is examined, a photograph of himself, taken within three years, which will be filed with his examination papers as a means of identification in case he receives appointment. An unmounted photograph is preferred. The date, place, and kind of examination, the examination number, the competitor's name, and the year in which the photograph was taken should be indicated on the photograph.

Age limit, 20 to 30 years on the date of the examination; salary, $50 per month, with board and quarters, provided that if appointees are retained in the position of interne after one year they will be paid $125 per month.

Only graduates of reputable medical schools having a three years' course will be admitted to this examination.

This examination is open to all citizens of the United States, and also to aliens who comply with the requirements, provided that aliens appointed for service on the Isthmus of Panama shall not be eligible for appointment or transfer to any other branch of the public service.

Applicants should at once apply to the United States Civil Service Commission, Washington, D. C., for application Form 1312. The medical certificate in Form 1312 must be filled in by a reputable practicing physician. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

As examination papers are shipped direct from the Commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will, therefore, arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

Issued June 12, 1905.

NUTRITION IN HEART LESIONS.—A most essential factor in the handling of cardiac lesions, either functional or organic, is proper nutrition. In fact I know of no other disease where failure attends the proper selection of remedies so often as in cardiac trouble, the cause being due to improper feeding. In functional derangements the most carefully selected remedies fail to bring about the desired result if the diet of the patient be improper or he be overfed, while in structural lines we are defeated before we begin if we

It Stands the Test

TYREE'S ANTISEPTIC POWDER

WAR DEPARTMENT,
SURGEON-GENERAL'S OFFICE,
WASHINGTON, D. C., Jan. 3, 1890.

This is to certify that the exact Antiseptic strength of Tyree's Pulv. Antiseptic Comp. is one part of the Powder to 50 of water (1:50). Test tubes containing peptonized beef broth were charged with the powder (Tyree's Antiseptic Powder). The solution was then inoculated with the Anthrax Bacillus and with the Staphylococci of Pus and the tubes placed in the incubator for 48 hours at a temperature of 39° C. On removing the tubes from the incubator it was found that in the solutions of one in ten to one in fifty there was no development of Bacteria.

W. M. GRAY, M.D., Microscopist,
Army Medical Museum.

Formula on Every Box. Always Insist upon Getting Original Packages. Only the Genuine Tyree's Powder Reliable. Literature and Trial Sample Free.

THE smallest actual fact is better than the most magnificent statements of impossibilities. Tyree's Antiseptic Powder promises no more than it really does. It has been found extremely useful when applied to all mucous surfaces, external or internal—Vaginal, Urethral, Rectal, Nasal, Oral, Pharyngeal, Intestinal, etc. Dilutions up to 1 part in 50 are still germicidal; that gives great value and makes it economic. Its range of utility in the large field of antiseptics is wider than that of any other preparation.

J. S. TYREE, - Chemist, - WASHINGTON, D. C.

neglect the nutrition. When we take into consideration that nearly every functional disturbance of the heart, in perhaps forty per cent or more cases, can be traced directly to gastric intestinal disturbance, we will all the more rightly appreciate the great importance of a proper diet. In handling these nervous conditions or functional abnormalities, one can accomplish very little with medicine unless his patient's diet is properly selected. The diet should be one requiring little or no digestion, and yet supplying in proper proportion a full quantity of the elements of an absolute nutrition. When we come to prescribe for structural lesions, we find the diet most important, for every organic lesion is not only aggravated by faults of digestion, but the nutrition of the organ itself relies largely upon the diet furnished. If we take into consideration the various valvular derangements, it will be found that the heart is able to do its work owing to compensatory changes that have gradually taken place, and that the case only becomes grave when compensation fails.

The chief aim in the treatment should be to maintain this stage of compensation and while the drugs usually employed in these conditions bring about desired results in part, complete results are not obtained unless proper and complete nutrition is supplied. In cardiac enlargement the same state of affairs prevails. To maintain the heart, when hypertrophied a uniform degree of nutrition is most essential. In atrophy and dilatation we should endeavor to build up the heart tissue, and such food as will supply the necessary elements should be selected. In fatty conditions of the heart a proper diet is most essential and should receive the physician's careful attention.

In the handling of all cardiac conditions, and my experience has been a large one, I have found that Bovinine was the ideal food and tonic. It does not over stimulate the heart, but supplies sufficient stimulation. It gives to the system

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INTESTINAL ANTISEPTIC,
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In **Fermentative Dyspepsia,** Eusoma is of especial value; in this condition digestive ferments are often prescribed under the erroneous impression that the digestive power is thereby conserved; nothing could be more fallacious—no function can be strengthened by disuse. Eusoma overcomes and prevents decomposition of the contents of the alimentary canal, and the digestive organs being relieved of this burden are enabled to perform their duty without artificial aid.

Eusoma is an ethical preparation there is no mystery about it—it is not a cure-all but it is a perfect, non-poisonous antiseptic, antipurulent and alterative for both external and internal use.

All **Septic Conditions** are promptly and favorably influenced by the internal administration of Eusoma, which has well been termed the "Great Corrector of Blood Dyscrasia."

As a local application in **Eczema** and other **Skin Diseases,** Eusoma allays the itching, contributing not only to the comfort of the patient but materially increasing the effectiveness of the general treatment.

Clean Wounds always heal without suppuration and Infected Wounds quickly become clean wounds when Eusoma is used as a dressing.

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proper proportion of every element of nutrition and a normal amount of assimilable iron. Each individual case must be studied and the quantity of Bovinine administered, suited to that case.—T. J. Biggs, M.D., Stamford, Conn.

MERZ SANTAL COMP. PERLES EFFECTIVE IN A CRITICAL CASE.

Egerton, Ohio, April 19, '05

The Merz Capsule Co., Detroit Mich.:

Gentlemen—I wish to thank you for a liberal sample of Merz Santal Comp. Perles sent me for a post-card out of Truax Greene & Co.'s catalogue. They came right in place in a case of irritable bladder affecting a lady in pregnancy, when it seemed that a miscarriage was inevitable. I gave one capsule (No. 153) every hour (except from midnight until morning) with other medicine (keeping pain quiet with morphia hypodermically). Patient is doing well and will recover safely. I tried Urotropin and other remedies without avail in her case. I do not intend to be without these, and enclose bank check for $2.65. Please send boxed in tin, Santal Compound No. 153, and oblige,

D. G. Mortland, M.D.

Oswego, N. Y., April 15, 1905

The Anasarcin Chemical Co., Winchester, Tenn.:

Gentlemen—Yours of March 16th to hand. The sample tablets were duly received. After some delay we were able to get a supply through the jobber, and now have them as needed. I had a case of general anasarca, albumin in very large quantity, and great disturbance of the circulation, due to uncompensated valvular lesion, in which I had exhausted all the stock, orthodox, remedies without benefit; in fact the patient was steadily getting worse, voiding only twelve to twenty ounces of urine, and breathing rapidly and with great distress nearly all the time. I expected an early demise, and commenced the treatment that you recommend only as a *dernier resort.* Within

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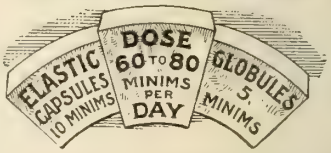

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In Urethritis, Cystitis, Prostatic Troubles, difficult micturition etc.

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three days there was improvement, which has steadily continued. The elimination of urine gradually increased to 30, 40, then 60 to 80 ounces a day, the tumultuous heart was steadied, breathing improved in quality, insomnia disappeared, albumin lessened. Now, after two months or a little less, the patient is practically well. There is no unsteadiness of the heart; the breathing is easy, and he goes to bed and sleeps all night; there is no edema; and there is no albumin in the urine, of which he voids about 50 ounces per day. He is now taking four tablets a day, and expects to get to his business as soon as the weather moderates a little. I had a parallel case, only more chronic, with an acute exacerbation, in which there were almost similar results, but not quite as satisfactory, owing first to the chronicity of the kidney trouble, an old interstitial nephritis, and secondly to the intractability of the patient; but on the whole the results were satisfactory, and much more so than I could expect from any other line of treatment that I know of.

The ordinary diuretics and heart remedies disturb the stomach to a marked degree, whereas there seems to be improvement when taking the remedies suggested in your booklet.

Within a few days I have put another patient on the treatment. His trouble was inability to make the slightest exertion without the most dangerous and distressing form of dyspnea; in this case there was very pronounced regurgitant murmur, general venous congestion, no albumin or edema. Six weeks' treatment had made very little improvement; urea was excessive, urine about twenty ounces. One week, taking four tablets per diem, has made a marked improvement.

Yours truly,

(Signed) J. K. STOCKWELL, M.D.

INTESTINAL ULCERATION.—The patient in this case was a woman 82 years old. Her trouble was of several years' standing, during which time she had been unsuccessfully treated for various forms

PASSIFLORA

A PHYSICIAN OF 30 YEARS' EXPERIENCE SAYS: I HAVE USED **DANIEL'S CONCT. TINCT. PASSIFLORA INCARNATA** TO QUIET NERVOUSNESS, INSOMNIA, AND IN CONVALESCENCE AFTER TYPHOID FEVER. I HAVE ALSO GIVEN IT TO WOMEN SUFFERING FROM ENDOMETRITIS AND IRRITATION FROM OVARIAN TROUBLE. IN CASES OF INSOMNIA DUE TO ALCOHOLIC EXCESS, I FIND IT INDUCES NORMAL SLEEP. WHERE A CALMATIVE IS NEEDED, PASSIFLORA IS EXCELLENT.

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SENECA EGBERT, M.D., Dean of the Department of Medicine.

of gastrointestinal affections. I found that there was a great deal of pain, at times very acute, in the region of the duodenum, and a careful examination of the daily stools showed a number of black crusts which, with other symptoms, indicated an ulcer. As there was much acid fermentation and gastric disturbance, I thought the use of Glyco-Thymoline would be effective, and began with tablespoonful doses every three hours. The results were wonderful. Not only were the gastric conditions corrected speedily, but the pains and soreness were lessened in the duodenal tract and the quantity of black crusts in the stools greatly lessened. I had the patient under the care of a trained nurse, and told her to keep up the Glyco-Thymoline treatment and closely watch the stools and report to me daily. This was done, and the improvement steadily continued until, after some three weeks' treatment, there was no pain nor soreness and no trace of the crusts. Her appetite had returned and she could digest and assimilate her food without any distress, something she had been unable to do for a number of years. After another week or so I found that every indication pointed to a cure, and discontinued the treatment. That was over a year ago. She has not had the slightest return of the bad symptoms, and her general condition is remarkably good for a woman of her age. As it is, she apparently has a number of years of life before her, and as Glyco-Thymoline alone was used, the inference that it saved her life is not over strong. I cannot say too much in its praise, and shall employ it wherever its use is indicated.—A. F. Foye, M.D., Washington, D. C.

The Treatment of Specific and Suspicious Vaginal Discharges.—In

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Medical reference books to be of value should have a strong personality. They should reflect the views of an author of real ability, extensive experience and of positive convictions.

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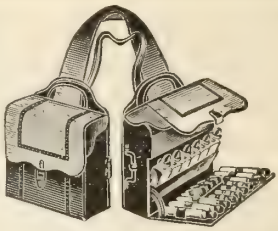

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private practice it is a matter of impossibility to distinguish specific from non-specific vaginal discharges, in a great many instances. This is so because it is impossible to make examinations with thoroughness in many cases, and it is impossible to make or have made microscopical examination of the discharge. Again, the social and moral environments of the patient are not in themselves sufficient to make the experienced physician less dubious as to the actual elements of causation in any particular case. The experience of all physicians who have had large experience has conclusively shown that we have many cases of gonorrhea, in females as well as in males, that we could not have expected, taking into account the social position of the patient. But very often for obvious reasons it is best for the physician's reputation that he does not go too deeply into these cases. His reputation, in fact, is greatly enhanced often by his silence, coupled with a successful effort to cure the discharge.

The most happy results have been secured in every suspicious vaginal discharge by treating it in the way that I do those cases that are unmistakably gonorrheal.

I have found that it is unnecessary, and often very prejudicial, to give internal medication in these cases. Formerly it was thought necessary to give copaiba and drugs of that class, but these agents derange digestion, and often in this way work greatly to the disadvantage of the patient. Internal remedies are, I think, only appropriate when the patient's general health is lowered. If the patient has anemia, syphilis, or any constitutional disease, this of course is to be treated in accordance with well understood principles. But the great majority of cases require only local treatment.

In these vaginal discharges, both specific and non-specific, I employ Tyree's Antiseptic Powder. I have the patient dissolve a teaspoonful of the powder in a pint of hot water, and this is injected into

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he vagina. In cases where the discharge is very profuse it should be used for the first three or four days three times a day, but after this night and morning is often enough; then when the discharge becomes practically insignificant, every night or morning is often enough.

This remedy produces a soothing action that counteracts the smarting that is a most disagreeable symptom in these discharges. The treatment has also the merit of being very prompt in its action. I have frequently seen many profuse vaginal discharges successfully cured in a very brief time.

A woman, whose husband had told me at the time he came for me that he suspected that his wife was infected with gonorrhea, as he had been with fast women and had a discharge. I found her with all the symptoms of gonorrhea, and put her on the treatment already advised in this paper, and my patient made a prompt recovery. The recovery was also a complete one, or the woman would have called my attention to the fact.

A girl, twenty years old, had a discharge that was suspicious, but I did not have the discharge examined under the microscope, and of course do not know. She had had the discharge for a year, and said it had greatly weakened her. On the same treatment this patient made a complete recovery in two weeks from the inception of treatment.

I could give many other clinical histories that bear out the value of the treatment, as well as show the wisdom of the policy of keeping quiet as to the facts, or the suspected facts, of some cases; but what I have said is, I think, enough.—HARRY TYLDESLEY, M.D., Member Kentucky State Medical Society, Member Muhlenburg County Medical Society, Assistant Surgeon I. C. R. R., etc., Central City, Kentucky.

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SOLUTION
ADRENALIN
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THE BUSINESS MANAGER,
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REVIEW OF THE REPORT OF THE NEMIA COMMISSION UPON HOOKORM DISEASE IN PORTO RICO.—The ommission appointed by the United tates Government, February, 1904, for ıe Study and Treatment of Anemia in orto Rico, has submitted a report to ıe governor of that island. This reort covers over 200 pages, and is printed oth in the Spanish and in the English nguage.

The Commission was composed of exrts in their special field, and the nount of work accomplished by these ntlemen, and the exceedingly painstakg manner in which they attended to ery detail of the subject, stamps this quiry as one of the most scientific and orough investigations ever undertaken the cause of public health.

As early as 1899, Dr. Bailey K. Ashrd, who later became a member of this ommission, discovered the parasite *kylostoma* in the feces of anemic paıts who were then crowding the field spitals of Ponce. This was the first sitive evidence that the disease in Porto co, known as *anemia*, was not the dinary form, but *ankylostomiasis* or *cinariasis*, produced by the parasite cking the blood, and so prevalent did is disease become during the ensuing years that fully ninety per cent of the population became affected.

When the Commission appointed by the United States government began its investigation in Porto Rico, it established a hospital consisting of tent-wards, first at Bayamon, and later at Utuado, the most anemic districts of the island. The object of the treatment was first to remove the parasite, and then to cure the anemia.

To kill the parasite, thymol, male-fern, and betanaphthol were given, but the preference was for thymol. First the patient received a purge of salts, and then on the following day he was made to fast until one o'clock, and then was given thymol in doses not exceeding four grammes; then another purge was given to remove the bodies of the parasite killed with the antiseptic. The purpose of the first purge was to clear the intestines of the mucus, etc., so as to allow the thymol to act. The thymol and purge treatment was continued once a week until the feces showed no more *uncinaria*.

While thymol kills the parasite and the purges remove them from the intestine, also diminishing the amount of toxins in the system, these remedies only clear the field for a reconstructive process in the blood which is needful for the restoration to health of the extremely anemic patient.

Iron was given in the severe cases of anemia. *Pepto-Mangan (Gude) was the only proprietary remedy reported by the Commission,* the other remedies used being pharmacopœial preparations. That over eighteen pages of the report should be devoted to cases treated with Pepto-Mangan proves the high regard in which the Commission held this preparation, and establishes the unrivaled clinical value of Pepto-Mangan (Gude) in one of the most severe forms of anemia—that of *uncinariasis*, or miner's anemia.

In reading the report of the Commission, the unbiased character of the work stands out clearly, and yet the results obtained point so distinctly to the supremacy of Pepto-Mangan (Gude) that even if numerous other records were not

Antiseptic Treatment of . . . . Dysentery

Dysentery is a local disease—inflammation of the lower bowel.

Its rational treatment is by the most convenient route—by antiseptic high irrigation per rectum. The best agent for this purpose is a hot, copious, mild solution of

Tyree's Antiseptic Powder.

This should be repeated at frequent intervals, governed by the severity of the case.

Other intestinal disorders are much benefited by the same treatment, by which the reabsorption of inflammatory exudates is prevented.

TYREE'S ANTISEPTIC POWDER, first introduced for treatment of inflammation of the vagina, has proved to possess remarkable healing powers for ALL MUCOUS MEMBRANES.

For full literature and sample, address

J. S. Tyree
CHEMIST
WASHINGTON, D. C.

available, proving the therapeutic value of this remedy, this report alone would suffice to establish Pepto-Mangan (Gude) at once as the foremost hematinic known. The eighteen cases in which the Commission used Pepto-Mangan in the treatment of uncinariasis were selected on account of their extreme severity, and thus these cases represent the most crucial test to which any iron preparation can be subjected. The results obtained with this treatment were extremely gratifying. In nearly all of the cases we find such notes as these: "Excellent condition; completely cured, etc;" while the difference between the low percentage of hemoglobin (some cases showing only 11 per cent) and the low count of the red cells at the beginning of treatment with Pepto-Mangan, and the nearly normal findings at the conclusion, affords convincing proof of the efficacy of the medication.

A noteworthy fact is that none of the patients showed any digestive disturbance after the administration of Pepto-Mangan, although the remedy was used for many weeks in each case. When we remember the extremely low state in which most of these patients were found on admission, and the fact that several suffered from gastrointestinal symptoms incident to their disease, this detail is by no means to be underestimated.

The observations of the Commission were made under government control and therefore the Report may be regarded as a supreme test, and the efficacy of Pepto-Mangan in one of the severest forms of anemia is proved beyond doubt.

THE attention of the Woman's National Sabbath Alliance having been called to the harmful effect of overtaxing brain and nerves, resulting from incessant excitement and toil, appeals to the medical faculty for a leaflet of not more than 2500 words, demonstrating the urgent need of a weekly mental and physical rest-day as appointed of God for the moral and religious welfare of man, and offers a prize of $25 for the best essay on this subject. The experience of a Christian physician preferred

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The accepted manuscript shall become the property of the Alliance, and the papers will be returned when called for if accompanied by the full amount of postage needed.

WORDS OF APPRECIATION.—The following letter, relating to the treatment of opium and other addictions, will interest many. It is addressed to our old friends, The Antikamnia Chemical Company, and reads:

"GENTLEMEN—Illness, dating from the very day of my former letter, must be my plea for my silence and my seeming indifference to your courtesy, and your exceptional kindness in sending me your little 'Vest-Pocket-Box.' I want you to feel that I sincerely appreciate your goodness in this little matter. I am in charge of the Woolley Sanatorium, an institution conducted exclusively for the cure of opium and other drug addictions, and am using Antikamnia Tablets extensively after withdrawing morphia, and I am free to say that I do, in reality, regard your product as 'A Succedaneum for Morphia.'

"Our institution is probably the largest of its kind in the South, and if my views should prove of value to you at any time, command me, and use them as you wish."

MARION T. DAVIS, M.D.
(Univ. of Maryland School of Medicine)
ATLANTA, GA., April 15, 1905.

INTESTINAL DISORDERS DUE TO LACK OF NORMAL INTESTINAL ALKALINES.—At this period of the year we are called upon to consider carefully the application of therapeutic measures to be adopted in the treatment of diseases of the gastro-intestinal tract. Conditions met in these cases have a marked degree of similarity, due primarily to a faulty or altered secretion of intestinal juices, broken-down

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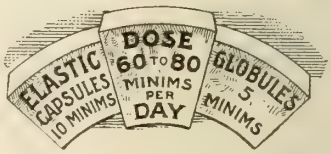

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mucous membrane, together with fluids of intensely acid reaction loaded with pathogenic bacteria. The logical treatment indicated would call for a prompt removal of the source of infection and the restoration of normal secretion.

A prominent practitioner in the South, whose wide experience justifies authority, recently embodied in a paper the following statement: "In diseases of the intestinal tract in children or adults, whatever the diagnosis may be, we always trace the origin of the trouble to a *want of alkalines* to correct an excess of acidity during the digestive process." This is of deep interest to us, as it gives the key to the marked results following the administration of the alkaline antiseptic, Glyco-Thymoline, which not only corrects existing hyperacidity with its concomitant symptoms, but causes by its exosmotic property a rapid depletion of the engorged membrane and a stimulation of the glandular system to normality, whereby the proper amount of alkaline fluids will be secreted. Therefore it is well to remember that Glyco-Thymoline not only corrects the effects of di ease, but aims to reëstablish those pr cesses of digestion and assimilatio which are wanting.

In severe cases of cholera infantur dysentery, ileocolitis, etc., the solutio should be administered as a colon flus using a 10-per-cent solution of abo 100°F. This treatment combined wi 5j to 5ij doses per os serves to rapid eliminate all toxins, promote an asept condition of the bowel, and to encoura what is most needed—the secretion normal alkalines.

TREATMENT OF STRICTURE.—J. Denston, of Scranton, Pa., reviews t causes and treatment of stricture. The is one method which he always adop as a finale, no matter what method methods he may have used on the str ture previously, and that is what he ca the massage method. A sound is insert well into the bladder, or sufficient si to fill the urethra without straining t membrane, and then the whole length

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he urethral canal is massaged with the ngers, but with especial pressure and passage on the stricture or strictures, or often several well-defined strictures re found from meatus to sphincter of ladder.

This massage treatment about twice a eek, with from ten to fifteen minutes' éance each treatment, will cure about 00 per cent of all strictures if continued for a few weeks, the author claims.

Electrotherapeutics, properly applied, he author characterizes as a sure cure.

Ichthyol will dissolve the false tissue, nd if applied full strength to the stricure will cure; but ichthyol attacks all embranous tissue, and even the cuticle, hen applied in full strength. It must e applied directly to the pyogenous ssue without encroaching upon healthy issue, and then we have an absolute cure or stricture in the proper application of chthyol.

But for the most part strictures are ery difficult of permanent cure. They re often apparently cured, and for a time give no evidence of their presence, and then of a sudden they become again noticeable and require further treatment.

In giving treatment for stricture, especially when employing the massage method, he prescribes a 2 to 4 per cent solution of ichthyol, as an injection, twice a day, by the patient, to aid in effecting a cure.

It is not generally known, the author concludes, that ichthyol in form of ointment or otherwise, applied in proper strength, will heal abrasions, cuts, burns, and surgical stitches without leaving noticeable cicatrix; hence its usefulness in cure of stricture—leaving a smooth surface along the urethral tract.—*Medical Summary*, April, 1905.

DR. PETTEY'S RETREATS.—We take pleasure in directing attention to the work of Dr. Geo. F. Pettey, of Memphis, Tenn., who has recently completed the treatment of 800 cases of drug addiction at his Memphis Retreat. He has also

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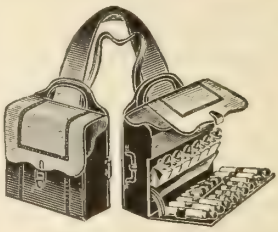

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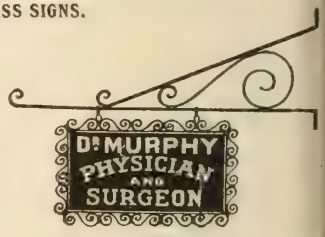

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lately opened a branch of his work at Denver, Col., and another at Oakland, Cal., each of which is under the care of one of his assistants. These institutions were opened and are being maintained solely for the purpose of treating the alcohol and narcotic drug addictions by methods based upon the original investigations of Dr. Pettey, and first published to the profession by him in 1901 (See *Therapeutic Gazette,* October, 1901).

It is stated upon good authority that the method of treatment introduced by Dr. Pettey removes these addictions from the list of almost incurable diseases, and renders them the most certainly and readily curable of all the chronic ailments. In thus extending his work, the doctor is making an organized effort to rescue from the irregulars a class of patients who have been neglected by the profession generally until they have almost ceased to apply to them for relief. These institutions are conducted upon strictly ethical lines, and we bespeak for them the most hearty professional support.

COINING MINUTES.—The doctor's time is money. Automobiles are faster than horses, and many progressive doctors have already found more minutes in a day at their disposal by the use of them. It will be but a short time before the merits of the automobile and its special adaptability to a doctor's task will bring it into general use among physicians.

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INCIPIENT INSANITY. Dr. T. O. Wood, of London, England, writing in the current number of a prominent journal of the causes and cure of incipient insanity, concludes by saying: "While correcting the general health, our aim must be to allay prominent symptoms and at the same time remove the special causes which underlie them. For insomnia, regular exercise, short of fatigue, and living as much as possible in the open air by day, with tepid baths for the neurasthenic, will greatly help us, and above all things congenial physical occupation and rational amusements. Should want of sleep continue and if there is early morning restlessness"—then Daniel's Conct. Tinct. Passiflora Incarnata should be employed, because it nourishes the ganglia and allays nervousness, which in reality is the source of the disease.

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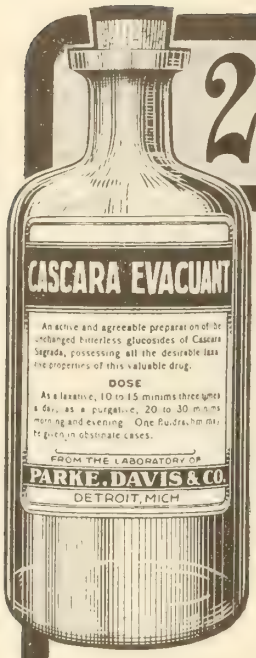
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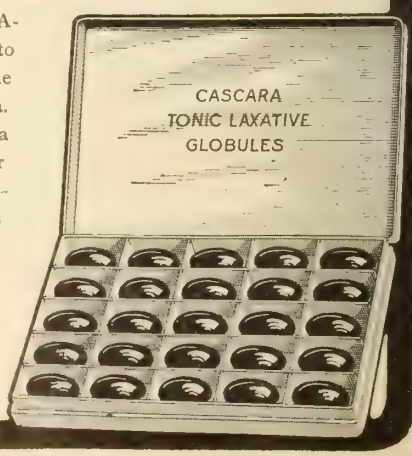

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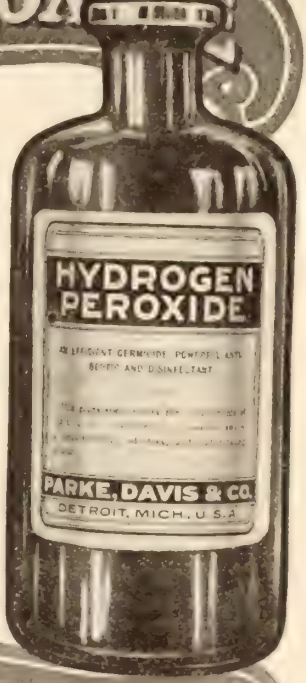

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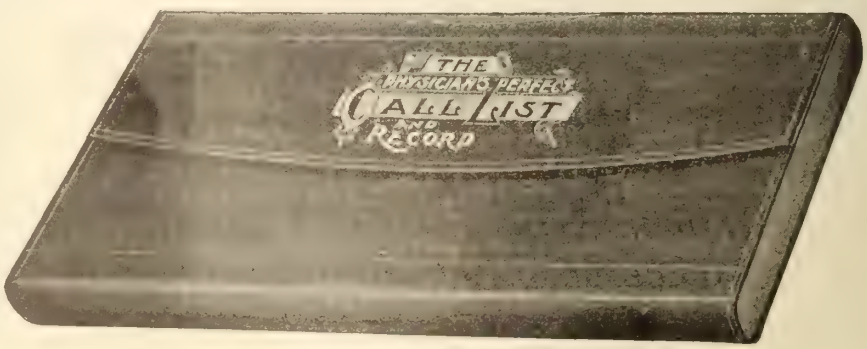

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MANAGEMENT OF PNUEMONIA.—The plan of treatment recommended by Baruch consists: (1) In absolute rest and isolation. (2) Thorough ventilation, abundance of fresh air; plenty of oxygen in this manner will avoid the necessity of later oxygen inhalation. (3) Drink. The patient should receive from four to six ounces of water at 40° F. every hour. He often orders a few drops of hydrochloric acid or other placebo to be taken in four to six ounces of ice water every hour to insure regular administration. (4) Stimulation. This is unnecessary, except in alcoholics who are accustomed to it. Such cases may receive from ½ to 1 ounce of brandy every three or four hours, according to the previous habits. (5) Medication. Baruch is still in the habit of beginning the treatment of all cases of pneumonia with 8 or 10 grains of calomel so as to clear out the system, given dry on the tongue, and the mouth well rinsed with water mixed with calomel before it is swallowed, so as to prevent ptyalism and destroy diplococci in the mouth. Several copious movements of the bowels should follow this; if not, citrate of magnesium is administered. He says avoid the small doses of 1/10 of a grain so frequently administered. They disturb the patient and irritate the intestinal canal. Strychnine is sometimes useful when the first sound of the heart becomes feeble, and should be given hypodermically in doses of 1/60 to 1/30 grain every six hours. Small doses of the coal-tar preparations are sometimes good calmative agents. One dose of from 6 to 8 grains of ammonol will produce sleep and quiet the patient. It should not be given oftener than once in twenty-four hours. (6) Hydrotherapy. In children he uses the tub bath, not less than 85° F., with constant friction, for six to ten minutes whenever the rectal temperature is over 102°. Sleep, if natural, should not be disturbed. In adults he does not use the tub bath because of the disturbance to the patient.

The toxemia in pneumonia is rarely so intense as in typhoid, and the temperature yields more readily. He therefore uses wet compresses consisting of three thicknesses of old linen in the shape of an old-fashioned oil-silk jacket or loose waistcoat, open at the shoulders. This is wrung out of water at 60° F., applied around the entire chest, and snugly covered with a similarly shaped piece of flannel, a little larger in size, without any impervious covering. This is repeated every hour while the patient is awake until the rectal temperature reaches 99.5°. It is never removed from the chest unless thoroughly warm. This application fulfils the following therapeutic indications: The gentle shock and reaction following it produces a refreshment of the nervous system; inspiration is deepened; dyspnea, which Baruch thinks is a sign of diplococcus infection rather than pulmonary obstruction, is relieved. The patient brightens up and feels refreshed. Heart failure is prevented. It acts as a direct tonic to the heart. The elimination of toxins is furthered by improvement in the circulation and the quantity of urine increased. Perspiration is another elimination process which is favored. The alkalinity of the blood has been shown to be increased. The temperature is reduced after each cold compress. The abstraction of heat is followed by a reaction which warms the damp linen. He says see to it that the nurse does not apply

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Dysentery is a local disease — inflammation of the lower bowel.

Its rational treatment is by the most convenient route—by antiseptic high irrigation per rectum.
The best agent for this purpose is a hot, copious, mild solution of

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This should be repeated at frequent intervals, governed by the severity of the case.
Other intestinal disorders are much benefited by the same treatment, by which the reabsorption of inflammatory exudates is prevented.
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oiled silk over the compress and make a poultice of it, relaxing the vasoconstrictors and making the cutaneous circulation sluggish, which is not desirable. He thinks with this management the crisis is not often observed; lysis is the ordinary resulting process.

After the acute manifestations have subsided, the temperature and pulse being normal, the patient may be allowed to rise, and after a few days a ride out if the weather is propitious, even though the physical signs indicate that resolution is not complete. He has reduced by this method the mortality in his hospital practice from 50 down to only 12 per cent, which, considering the desperate character of the cases, many of them being poor Italians and persons of bad habits, is a very excellent percentage. He claims that this method is based on the conservative tendencies of the human organism, which must not be embarrassed by powerful medicine, but aided and encouraged. Careful watching of the patient and earnest attention to the minutest details are essential to success.

SOME NEGLECTED SYMPTOMS OF NON SURGICAL GYNECOLOGY.—It is but a lac of inquisitiveness on the part of the ge eral practitioner that has brought about condition of things in gynecological pra tice that warrants the assertion so ofte reiterated in current surgical literatu that "modern gynecology belongs, pra tically, to the field of operative surgery.

The successful physician, with a cha acteristic personality of inquisitivenes can boldly refute such assertions and su stantiate his refutation by the thankfu ness of a happy clientele of womankir released from a thraldom of suffering b his inquisitiveness.

Diseases of the female organs of ge eration are more common than any but physician can suppose, and surgical gyn cology has become a necessity from a early neglect of backaches, spineache and headaches, followed by irregula scanty, painful, delayed, or suppresse menstruation during girlhood. The i quisitive physician rushes not into instr mental interference, nor sends such p tients to certain specialists for officio

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mutilation, but first fires a volley of seek- arther questions at the patient, which licit the information that such patient assed her days of approaching puberty n an overcrowded public school, or worse, n a jail-like boarding school for young idies, adding fuel to the fire of antagon- sm between brain and indigestible foods; ne body growth lags behind, leaving the mprint of the unequal struggle on the eproductive organs.

With poorly established sexual func- ons and a perfect disregard for men trual week, the undeveloped woman eaves school to plunge into a vortex of ocial dissipation, followed later by an ssumption of wifely duties and responsi- ilities toward a husband who has seen nly her bewitching face and not her frail odv.

It is hard to fathom the reason why o many such wives at first tolerate mar- iage obligations, and later resent and oathe them when the poor, broken-down exual system refuses longer to continue unctions for which it was made, but care- ssly unfitted!

Is not such a condition a cause for dread of maternity on the part of the woman which often leads to criminal abortion, with all its attendant sequences?

To the inquisitiveness of the successful physician must be added a power of positiveness, wherein he may teach both the husband and the wife something they should know before their carelessness brings about these later conditions which require the necessity of mutilation.

The woman suffering from continued nervousness, weariness, wakefulness, headache, and backache needs the services of a physician, and not a surgeon. Likewise such symptoms as scanty, painful, delayed, and suppressed menstruation should be under the care of a physician and not an overzealous surgeon. Prolapsus, leucorrhea, ulcerations, chronic inflammations, congestions, and enlargements are purely the outcome of neglect of just such symptoms as named. The first-named symptoms are but the assertions of nature that she is tired of the unequal load, and if not relieved she will resist no longer, come what will.

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to the technique of examination in the early stages of such cases will reveal constipation, congested mucous lining of the vagina, and irritable bladder, with diffuse hyperemia of all pelvic structures and loss of organic or respiratory rhythm; that subtle thrill which extends over the whole body synchronous with the beating of the heart and motion of the lungs, plainly perceptible to the trained eye looking upon healthy pelvic viscera. Quick must be the relief of this engorgement, with its pernicious nutrition of the parts and concomitant accumulation of excrementitious matter.

First and foremost in the treatment of this condition comes the remedy of absolute rest to the parts, and then, but no less important, is the removal of improper dress and the reëstablishment of abdominal breathing to restore proper circulation in the pelvic viscera. Treatment for the removal of constipation is self-suggestive; rest we can enjoin upon our patient, and abdominal breathing we may advise, but all animal cells, whether single or united in tissues or in organs, consume a certain amount of matter, and thos chemical changes by which materi brought to the tissues and organs by th blood and transformed into other produc through the activity of the living cel which liberation of life energy, must b maintained by a continued inherent thr or respiratory rhythm and a constant su ply of chemical products. This san chemical agent must not induct a destru tive blood metamorphosis, but supp food for the debilitated vitality. For su action we must seek some combination the old and well-tried remedies of erg and apium, with acceptable hemagogue

The questionable action heretofore e hibited by various preparations of su remedies has been due, as clinical proven, to the component resinous co pounds of the apium in the combinatio In Ergoapiol (Smith) the active pri ciples of apium have been isolated, a with ergot made to form an acceptab and agreeable compound with invigora ing hemagogues, proving of unquestio able benefit in such conditions as me tioned in this article.

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Preëmption of space for case reports this subject would scarcely be justible, when each reader may cluster the cts as herein stated around well-known inciples and evolve therefrom a rational lution of treatment for disease involving e female genitalia.—JOHN A. HALE, .D., Alto Pass, Ill., in the *Medical rald* of St. Joseph, Mo.

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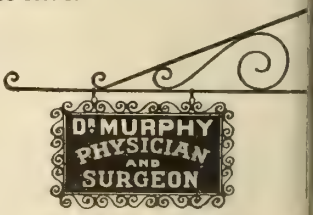

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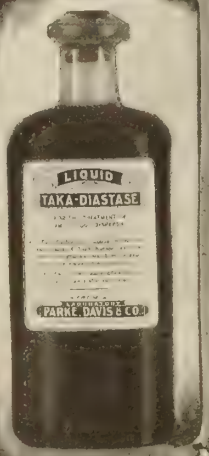

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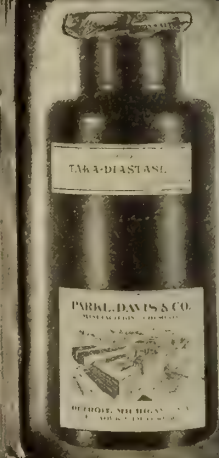

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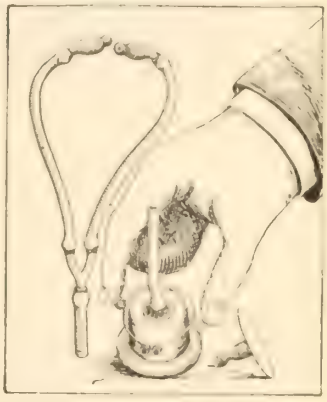

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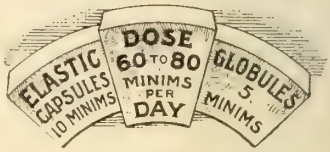

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Dr. Thos. S. Blair, *Medical Era*, June, 1905, says: "Echinacea, or the purple cone flower, is probably the most remarkable antizymotic agent of vegetable origin that has been introduced to the profession. Unfortunately, only that growing in a limited area seems to possess much activity, and it requires the utmost care in manipulating the plant to keep from destroying its valuable properties. It is used to correct blood depravations and sepsis. It appears to actually influence for good the depraved states of the fluids of the body, but it must be used in considerable quantity. I consider it a 'sheet anchor' in the treatment of typhoid." And we say that EUSOMA (Echinacea Compound) is the most efficient and reliable preparation of Echinacea which has ever been offered to the medical profession.

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f Antikamnia and Quinine Tablets will e found specially desirable. The antiamnia not only relieves the pain, but revents any disturbance of the nervous stem, so frequent when quinine is given one.

FROM "Special Pathology and Therapeutics," edited by Prof. Hermann Nothagel, Privy Councillor; vol. xiv, part iii, Tuberculosis," by Prof. G. Cornet, of erlin; Vienna, 1899, Alfred Hölder.

In the chapter on "Specific Treatment" rofessor Cornet discusses the chief specific remedies that have been employed. he most favorable influence of all of em upon the body is exercised by cre te, especially when in combination with rbonic acid in the forms of the preparaons known as "Creosotal" and "Duotal."

"It is especially in the cases of patients ith very abundant expectoration swarmg with bacilli that diminution of the cretion takes place after the administran of creosote; the rapidity of the ad nce of the disease process diminishes, d sometimes ceases entirely. This may be chiefly due to the improvement in digestion (Klemperer), in the appetite, and in the general nutrition that is sometimes observed after its use. Not infrequently, however, there occur cases in which creosote has exactly the contrary effect, and causes anorexia, eructations, digestive disturbance, and diarrhea, so that its employment must be quickly stopped."

The disagreeable and even caustic action of creosote, and the inconstancy of its chemical composition, have led to the recommendation of its chief constituent, guaiacol, and more especially of combinations of guaiacol with various acids, as substitutes.

"Of late years pure creosote and guaiacol have been largely displaced by the carbonic acid combinations of these drugs, Creosote Carbonate (Creosotal) and Guaiacol Carbonate (Duotal). The first is a thick fluid of a slightly bitter taste (decomposing in the intestine into its constituents, creosote and carbonic acid), and the latter a white, tasteless, and odorless powder. Both remedies are

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similar in action, and both have the great advantages over creosote and guaiacol that they are much better borne by the stomach, cause neither nausea nor irritative symptoms, often increase the appetite and the bodily strength, lessen the expectoration, and cause a general improvement in the patient's condition. Jacob and Nordt have recently reported cases with very good results from Professor von Leyden's clinic, and my own experience leads me to coincide with their favorable judgment upon these two preparations.

"Creosotal is to be administered to patients three times daily in milk, claret, beef tea, or capsules a quarter of an hour after eating. The beginning dose is five drops, to be increased by two to five drops, until about thirty drops are taken at a dose; and the administration is to be continued for from six to eight weeks. Then the remedy should be discontinued for about a week; after which its administration may be begun again. The very large doses of from two to three teaspoonfuls which Chaumier has recommended frequently render the drug distasteful to the patient, and cause digestive disturbance. Duotal is often better borne than Creosotal, and is to be given in doses of from 0.2 to 0.5 gramme (3 to 7½ grains) three times daily, gradually increasing up to a daily dose of from 1 to 2 gramme (15 to 30 grains). It may be administered in capsules or wafers, or may be taken plain with the help of a mouthful of water. For children the beginning dose is 0.1 gramme (1½ grains), increasing to 0.5 gramme (7½ grains), thrice daily."

Cornet further recommends Creosotal and Duotal in daily doses of 0.5 gramme (7½ grains) for the diminution of the expectoration.

The large doses of Creosotal prescribed by Chaumier are very suitable for acute diseases of the air-passages, especially in pneumonia and bronchitis (Cassoute Gorgier).

HEMORRHAGE TREATED BY STYPTICIN.—Dr. H. P. Merville, of Milwaukee, Wis., writes that he prescribed stypticin in a case of hemorrhage following curettement, and it was successful in twenty-four hours. He has also used stypticin in two cases of hemorrhage of the bowels in typhoid fever, during the third week. The hemorrhages were copious and exhaustive in both cases, but complete recovery resulted. Dr. Merville says that the effect was so prompt that it was a surprise to him. He is greatly predisposed in favor of stypticin.

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Quite right. If he had been up to date he would have used Antiphlogistine, whether his patients were rich or poor.

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PERSISTENT HEADACHES DUE TO NASAL CATARRH.—Nasal catarrh, both acute and chronic, frequently serves as the cause of headache. The pain is generally one of persistent type and classed as congestive. Examination in these cases may show suppuration of accessory sinuses with marked nasal obstruction, due to small spurs, deviated septum, and general hypertrophy. As a rule these obstructions are of little import if the engorged membrane can be readily depleted and the local circulatory system restored. This can readily be accomplished by instructing the patient in the use of Glyco-Thymoline in a 25-per-cent solution (warm) by means of the K. & O. Nasal Douche. The solution should be applied at least twice daily until the nasal membrane is found to be perfectly normal. This measure will give prompt relief from the congestive pain and maintain the nasal membrane in a healthy condition.

The following case occurring in the practice of J. K. Cantrell, M.D., of Alton, Mo., can be cited as typical:

"I suffered for twenty years from nasal catarrh, and at times experienced the most agonizing neuralgic pain of a supraorbital character; like all other physicians, thought but little of using any remedy than my own until I received the sample bottle of Glyco-Thymoline sent me by you. It stood in my office for months until one of those neuralgic attacks came on, and after using my own remedy, with little or no satisfactory results, I commenced the use of Glyco-Thymoline, and was relieved in eight hours of the neuralgic pain, and I am glad to say I am as free from nasal catarrh as an infant. The above disease is the only disease I have had a chance to use Glyco-Thymoline on, as I used the sample sent me in curing myself. In conclusion will heartily recommend Glyco-Thymoline to all who have nasal catarrh, and will wager one

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hundred dollars that it will cure any case unless the disease is of syphilitic origin. I think Glyco-Thymoline should be introduced in every physician's practice in the United States. I for one shall recommend and use it in every case that comes under my treatment for nasal catarrh."

NOTE ON CHALYBEATE THERAPY.—There have been volumes written on chalybeate therapy, and the controversies upon the absorbability of this or that form of iron have occupied the attention of clinicians for many years. Among the many preparations claiming the attention of clinicians, the one devised by Dr. Gude, chemist, of Leipzig, has received the indorsement of the ablest men on both continents for ten years. The writer has used it to the exclusion of all others, with the exception of a few disappointing experiments with others claiming equal merit, and has published two papers upon the subject.

It would seem that when one has used a certain medicament for years and with uniformly good results, and especially if this agent definitely eliminates the shortcomings of formerly employed products of the same elements, one is apt to take its effects as a matter of course, and further discussion would seem useless, or at least superfluous. When it happens however, as is usually the case after a certain article has had a successful career that many similar products strive to take the place of the original, generally resulting in disappointment to the user, it becomes a duty to take stock of the evidence in the case and see how far the confidence in the one and the distrust of the other is justified.

For this reason I have had compiled from separates and reprints some of the results of a few trustworthy observers.

Secondary Anemia.—H. D. Peterson (*Chicago Medical Record,* 1896) treated many cases, reporting five in detail, and says: "Pepto-Mangan is easily absorbed by the digestive tract without any disturbance of the same, is not injurious to the teeth, and produces no constipation."

Dr. J. W. Frieser, Vienna (*Therapeu-*

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tische Monatshefte, February, 1902), reports treating many cases, among which he made detailed studies upon 43 cases, and summarizes: "It can be warmly recommended for extensive use in the treatment of anemic conditions."

Dr. Hugo Summa, St. Louis (*New York Medical Journal*, 1895), recommends its use after tests in 34 cases, saying: "It is especially worth mentioning that no bad after-effects could be detected. In this connection I call special attention to the absence of constipation that could be traced back to the use of this preparation."

Dr. Samuel Wolfe, Philadelphia, reports upon 50 cases observed during about four months, and concludes: "That Pepto-Mangan is a highly available preparation of iron, on account of its liquid form, pleasant to taste, non-corrosive action on the teeth and unirritating effect on the digestive organs, admitting thus of easy gradation of dose, easy administration to children and avoidance of unpleasant effects in all cases. That it is an efficient and rapid restorer of the normal quantity and quality of the blood, etc."

Dr. Fritz Euler-Rolle, Vienna (*Wiener klin. Rundschau*, March 29, 1903), mentions 14 cases of anemia, besides a number of cases of other diseases, in a very complete report, in which he is pleased with its absorbability and (on account of the abundance of peptone it contains) its food value in delicate stomachs, and finds it free from all the objections usually urged against iron preparations, and its results prompt.

Dr. C. A. von Ramdohr (*New York Medical Journal*, June 26, 1897), in connection with some gynecological cases, reports seven cases of anemia, in which there was a rapid improvement.

Dr. H. P. Loomis, in a paper before the New York Academy of Medicine (June 18, 1903), reports a number of cases, eight in detail, in whom there was a rapid increase in red cells and hemoglobin, and in most cases with no constipating effect.

Drs. Diago and Benitez, Superintendent and Chief of Laboratory, Hospital No. 1, Havana, Cuba (*Progreso Medico*, Havana, April, 1902), report six cases in detail and summarize as follows: "We may say conscientiously that it is the best remedy we know of for the purpose, and that we do not hesitate to commend it to the profession, especially our confrères in Cuba, as an iron preparation that possesses all the advantages that can be demanded of such a remedy, and none of the disadvantages that are characteristic of other iron preparations. We would especially emphasize also that Pepto-Mangan (Gude) is very pleasant to the taste, and is most easily taken by patients of all ages and with the most delicate digestions."

Dr. Juan Pablo Garcia, Havana (*La Revista Medica Cubana*, Aug. 1, 1902), says: "I have had the opportunity of testing the efficiency of this preparation of iron in a large number of cases in both hospital and private practice, and have found it the most satisfactory iron compound that has come under my notice. It is not at all constipating, its taste is not astringent, so that it lacks the great

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disadvantages of most other iron compounds." He says further that it causes no disturbances of digestion, and its therapeutic efficiency has been attested by the best clinicians throughout the world.

Dr. Louis J. Gravel, Physician-in-Chief to the Hotel Dieu, Montreal (*Buffalo Medical Journal,* August, 1903), prefers the term dysemia, meaning "bad blood," reports 13 cases with blood examination, and says: "Comparing my results with Pepto-Mangan (Gude) with those obtained from other chalybeates of this class, I have been led to give it decided preference."

Drs. Chibas and George A. de Santos Saxe, of Columbus Hospital, New York (*International Journal of Surgery,* June, 1903), report 40 cases, with tabulated results and complete bibliographic review (which has facilitated this compilation very much), and say they have used it in the hospital for over two years in anemic convalescents with uniformly satisfactory results. "In no case did constipation, nausea, headache, or digestive difficulties follow its administration."

Dr. Hermann Metall, Assistant Physician at the General Polyclinic, Vienna (*Med. Chir. Centralblatt,* January, 1902), reports 23 cases of anemia consequent upon a variety of conditions, of which 12 showed a normal hemoglobin per cent after fourteen days, 5 after three weeks, and 5 after a month. He concludes that it is "a reliable and valuable blood-building remedy, which can be recommended for general use in appropriate cases."

Anemia Consequent upon Special Conditions.—Dr. Mateo M. Guillén, at Randall's Island Children's Hospital, gives a tabulated report of 32 cases of infantile anemia with very elaborate blood chart, including some very desperate cases of cachexias, and says: "In no case did we have to suspend treatment on account of any untoward influence on the delicate organisms of sick infants." Three cases classed as hopeless made a complete recovery. The paper is very instructive.

Dr. J. M. Frieser (*vide supra*) also reports great success in infantile anemia.

Dr. J. S. Perekhan (*Chicago Clinical*

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Recorder, 1896) reports a number of cases, six in detail; Dr. C. A. von Ramdohr (*vide ref. supra*), 12 cases in detail; and Dr. Gellhorn, at Mackenroth's Clinic, Berlin (*Therap. Monatshefte*, 1897), mentions 60 cases, some in detail—all of gynecological patients with a variety of conditions, some postoperative, and all testify to the improved blood findings, Dr. Gellhorn concluding as follows: "I feel justified in asserting that in my therapeutic trials with Pepto-Mangan I obtained all that can be rationally demanded."

Dr. Ludwig Pohl, City Physician, Vienna (*Aertzl. Centr. Anzeiger*, Sept. 20, 1899), has used Pepto-Mangan (Gude) in over 100 cases of chlorosis, anemia, neurasthenia, hysteria, and malarial cachexia, and says: "I have previously mentioned that it may be positively assumed that Pepto-Mangan (Gude) stimulates the hemopoietic organs to increased activity. . . . Decided amelioration in the leukemic state, arrest of the process in severe cases for a long time, reduction of the glandular swellings, improvement in the relation between the red and white corpuscles, were noted by me in several cases."

In surgical conditions calling for improvement in the blood, Drs. Stuart McGuire (*Virginia Medical Semi-Monthly*) 20 cases, and George G. Van Schaick (*New York Medical Journal*, June 2, 1900) 50 cases, report favorable results. The latter concludes: "We have in such a preparation as Pepto-Mangan (Gude) a means of obtaining good results with a certainty that is almost mathematical, and without any of the distressing symptoms so frequently following the use of the inorganic iron preparations."

Dr. H. Edwin Lewis of Burlington, Vt. (*Vermont Medical Monthly*), Dr. Ed. C. Hill of Denver, and Dr. W. O. Davis (*N. Y. Int. Journal Surg.*, September, 1902), together with some of the authors already mentioned, call especial attention to the value of the preparation in irregular menstruation, sterility, and other sexual anemias in women.

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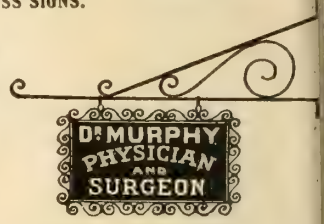

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Dr WALTER BENSEL, 135 W. 87th St., New York City.

Dr. Karl von Ruck (*New York Medical Journal*) finds Pepto-Mangan (Gude) the best preparation in the anemia of tuberculosis, being more efficient and more easily borne; he had used it in 70 cases, 12 being reported in detail, in some of which comparative tests were made with other iron preparations. Other observers also mention it in tubercular anemia.

Cachexia finds especial mention by Fritz Euler Rolle, Pohl, and Fasano; the latter, professor at Royal University, Naples (*Arch. Int. di Med. e Chir.*, March, 1899), discusses iron medication in detail, calling special attention to the chemistry of the subject, and reports having treated primary anemia, 20 cases; chlorosis, 25 cases; malarial anemia, 7 cases; tubercular anemia, 8 cases; uterine diseases, 11 cases; scrofulosis, 12 cases; rachitis, 10 cases; convalescents of exhausting diseases, 15; total, 108 cases. He says: "To recapitulate, Pepto-Mangan (Gude) not only deserves the place it has already acquired in therapeutics, but it merits even greater recognition, because all clinicians ought to make use of it in pathological processes in which the object is to restore to its normal condition the altered quality of the blood."

After this array of evidence it is only necessary to add that since this constitutes about all the clinical literature upon which our knowledge of the subject is based, it is rather significant that it was all done upon this particular product. In no instance is it claimed that the preparation is as good as something else, but it is simply set forth by the observers that this was the preparation used, and that it met these indications in the manner described. Since there is no official preparation that meets these requirements the manufac-

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urers of Pepto-Mangan (Gude) deserve ll the credit which the product has arned for them.—WILLIAM KRAUSS, PH.G., M.D., Memphis, Tenn. (Reprinted from the *Charlotte Medical Journal*, February, 1905).

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To the notes below and on the following pages, also in future issues, we respectfully direct your attention.

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OWING to the prevalence of insomnia the physician frequently finds it necessary to resort to hypnotics. In the selection of a remedy of this kind the points of special importance are safety, reliability, and freedom from unpleasant concomitant and after-effects. The sleep produced should approach as closely as possible to the normal; in other words, it should be of sufficient duration to refresh and invigorate an exhausted nervous system, without any traces of narcotic influence.

The essential features, while realized to some extent in the newer hypnotics, have never been so completely embodied in a single remedy as in veronal, or diethyl-barbituric acid. Although introduced but a comparatively short time ago, the clinical evidence, based upon numerous investigations by many of the most eminent neurologists, is positive and convincing. It has been found to surpass every somnifacient remedy hitherto introduced by the possession of those qualities which constitute an ideal hypnotic for general medical practice, excepting only those cases in which the sleeplessness is due to the presence of severe pain or intense mental excitement.

The sleep produced by veronal is prompt, prolonged, and refreshing, and on awaking the patient experiences none of the untoward sequelæ so common with other hypnotics. The drug is devoid of any injurious action upon the heart and respiration, and does not disturb the stomach, while even if given for a considerable time there is no risk of cumulative effects or habituation.

Owing to the very large literature that has appeared it is only possible to give here a few of the conclusions of noted authorities who have subjected veronal to a searching investigation.

Medical Clinic of University of Berlin (Prof. von Leyden): "We would summarize our experiences with veronal in the statement that in all cases of simple insomnia—that is, sleeplessness not caused by pain—prompt success may be expected with veronal. The drug can, at least in small doses of 0.25 to 1.0 gm. (4 to 15 grains), be given without compunction for a long time."

Augusta Hospital (Professor C. A. Ewald): "We are able to completely coincide with the favorable reports on veronal. It has proved of remarkable service. In doses of 0.25 to 0.5 gm. it acts as an excellent hypnotic in the most varied forms of sleeplessness. Only in cases of pronounced alcoholism we had to resort to higher doses, 1.0 gm. Although employed in about 100 cases we scarcely ever observed failure, and never any untoward effects. In very rare instances there was an intense desire for sleep persisting over 24 hours."

Medical Clinic of the University of Halle (Professor von Mering): "In view of the fact that veronal has a favorable effect upon the nutrition through its property of diminishing nitrogenous metabolism, it must be accorded the preference as a hypnotic in cases in which the administration of such a drug is indicated for long periods, as well as in those diseases in which there is an increase of nitrogenous disintegration, especially in febrile affections, in diseases attended with pronounced dyspnea, anemia, and in debilitating maladies, particularly pulmonary tuberculosis, carcinoma, and diabetes mellitus, and further in mental disorders in which nourishment is refused."

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RESULTS from treatment are essential to both patient and physician, experiments are expensive. Better cling to an established standard product. Allopathic, Homeopathic, Osteopathic and Eclectic physicians all disagree as to the dose, application and therapeutic effect of remedial agents with the single exception of

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fessor Buchholz): "The sleep was uniformly quiet, similar to normal sleep; the awakening was mostly pleasant, free from any disagreeable sensations. The duration of sleep was, on the average, even after small doses of 0.5 gm. (7½ grains), about 6 to 7 hours."

MODERN THERAPEUTICS AND PHARMACY.—In speaking of ethical proprietaries the author says: "I should be sorry, indeed, if the prejudices of any member of this society should so far overcome his better judgment as to banish all or most of these drugs from his practice without investigating their merits. So, if we desire a local antiphlogistic effect, and have to choose between the ancient, unsightly, unhygienic and troublesome flaxseed poultice and the newer proprietary article called Antiphlogistine, a physician must needs be prejudiced, indeed, who will prefer the former. . . . It may be a matter of theoretical indifference what preparation we prescribe, but it may be quite a different matter with the patient who has to use it for long periods."

"Does it not strike you as somewhat incongruous that we alone of all professions and trades should rise up in arms against a coördinate branch which is continually striving to assist us in improving our therapeutic weapons? If we would take advantage of the opportunity offered to make intelligent selection of such preparations of drugs of reliable concerns as appeal to reason and common sense, those of us who do so will certainly have an advantage over those who do not."

As regards the refilling by the druggists of prescriptions of proprietary remedies, he says: "If I am called to treat a sprain of the ankle, and find it necessary to order an antiphlogistic application, it would be just as easy for the patient to send to his druggist daily for more flaxseed meal or iodine, as it would be for him to order more cans of the more cleanly proprietary preparation, Antiphlogistine. A tonic or cough medicine, quinine mixture or capsule would

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TYREE'S ANTISEPTIC POWDER is one of the most generally useful antiseptic powders for hospital practice or in the office local treatment of leucorrhea arising from various causes, as uterine and vaginal catarrhs, that has ever been introduced. It is valuable as well in gonorrhea, gleet, and such diseases of the mucous passages. It is serviceable also in dysentery, in catarrhal inflammations of the nose, throat, mouth, gums, etc. Dr. W. M. Gray, microscopist to the Army Medical Museum at Washington, D. C., by test has proven conclusively its bactericidal action as to the anthrax bacillus, the staphylococci of pus, etc. It combines the qualities of such agents as salicylic acid and boric acid, so that its application to diseased mucous surfaces has a mild, stimulating, and astringent effect in the rapid healing of diseased tissues. While it may be applied as a powder, when circumstances demand, the economy of its use consists in the fact that water (so as to make from 10- to 50-per-cent solution) may be added at the time its use is required.—*Virginia Medical Semi-Monthly,* Feb. 26.

THE H. K. MULFORD COMPANY announce that they have prepared a list of changes that became effectual on September 1, 1905, according to the Eighth Revision of the United States Pharmacopœia, which they will be glad to send

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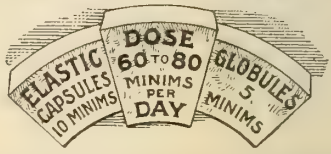

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to any of our readers. They are also preparing a small folder suitable for pasting in prescription blank giving the changes, so as to be a ready reference for the physician in the writing of his prescriptions. Copies of these folders will also be furnished upon request. Their address is 412-428 S. Thirteenth Street, Philadelphia, Pa.

A Fur-coat Opportunity.—Those of our patrons who live in the central northern and eastern States, and who consequently appreciate the luxuriousness of a comfortable, roomy, well-made fur-lined overcoat, are advised to look up the announcement which the House of George (Detroit, Mich.) makes in the Advertising section of this issue of the Therapeutic Gazette. This house, which makes a specialty of coats adapted to the wants of physicians, is one of the oldest and most reputable in the city of Detroit, and the customer who orders by mail does so with full assurance that he will receive the same conscientious treatment that would be accorded to him were he to appear at the store in person. The especially advantageous plan whereby the firm offers to submit coats on approval, or to send them C. O. D., subject to examination, gives to the prospective purchaser an opportunity to satisfy himself that he is getting what he orders before parting with his money—an offer, by the way, which no concern would have the temerity to make whose goods would not stand the light of investigation. The House of George shows a remarkably fine line of coats this year, ranging in price from $25 upward—coats that are durable, that are well tailored, that are made to fit, and that have style about them. We have seen them, and we know whereof we speak. To such of our friends as are interested we suggest the propriety of writing the firm at once for its catalogue.

We are in receipt of the second (October) issue of "The Bloodless Phlebotomist," a unique journal of sixteen pages and cover issued by the Denver Chemical Manufacturing Company, New York

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EUSOMA (Echinacea Compound) is an ethical preparation—there is no secrecy about it—it is not a cure-all but it is a perfect, non poisonous antiseptic, antipurulent and alterative for both external and internal use.

All Septic Conditions, puerperal or otherwise, are promptly and favorably influenced by the internal administration of Eusoma, which has well been termed the "Great Corrector of Dyscrasia."

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City. When we first came upon the little magazine we confess to have been a trifle nonplussed by its title, which, upon second thought, appears to have been the result of a very happy inspiration. For the most part the new journal is devoted to an exploitation of the company's Antiphlogistine, containing much useful information relative to the uses and action of this well-known agent, the mode of application, etc. We are pleased to learn that it is the purpose of the publishers to make "The Bloodless Phlebotomist" a permanent institution.

NOTES ON A CASE OF PERIMETRITIS.—I was called to see a female patient in the city on October 12, 1901. On arrival I found her with fever, temperature 102°, tongue coated, pulse rapid, bowels costive, urine scanty and high colored, pain and tenderness over the hypogastric region as well as in both iliac fossæ, vagina hot (as told by native *dhai*), but no discharge. On palpation the uterus was found hard, and on inquiry it was found that the present complaint was due to abortion and exposure to cold. I diagnosed the case as perimetritis associated with ovaritis and prescribed:

(1) Calomel gr. ¼. One every three hours.

(2) Antikamnia and Heroin Tablets. One every four hours.

(3) Turpentine stupes over the seat of pain.

(4) Liquor morphia, 15 minims at night, *if no sleep.*

October 13. Pain less than before; had a good sleep for four hours. Continued the same treatment.

October 14. Pain less than previous day; had good sleep without morphia.

October 15. Pain considerably less; patient could walk with the aid of stick. Good sleep. Continued same treatment, but stopped turpentine stupes.

October 16. Very slight pain remaining, patient weak, otherwise well. Stopped calomel, prescribed castor oil, oz. 1, and continued antikamnia and heroin tablets as before.

October 17. No pain at all. Bowels moved twice. Prescribed tonic mixture. Patient getting well.

Remarks.—In my opinion the recovery

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of this case was due to the analgesic and antipyretic properties of antikamnia and heroin tablets. They are worth a trial in such conditions.—HUKAM CHAND, C.M.S., Surgeon Delhi Hospital, in *Practical Medicine,* March, 1905, Delhi, India.

CYSTITIS.—The treatment of cystitis should be direct and indirect; whether it be due to gonorrhea, obstruction, or any other cause, the management is essentially the same. Here, rest is of first importance; such a condition of quiet is, at times, necessary that on the surface of the urine in the bladder there is not a wave or ripple.

The hips should be raised and the urine kept from the bladder neck; the general health should be cared for, and the use of such demulcent diuretics as will flush out the bladder with minimum discomfort. For the accomplishment of this purpose the following is of service when the urine is alkaline and much decomposed:

℞ Cystogen tablets, ää, 5 gr. No. xxv.
Sig.—One in a glass of water after each meal.

A SUCCESSFUL TREATMENT OF LEG ULCERS.—To ascertain the cause in the treatment of leg ulcers is of the greatest importance. A tuberculous, diabetic, or syphilitic ulcer will require much closer study of the constitutional condition than of the local treatment. Anything interfering with the venous flow, such as constipation, must be immediately corrected, and the patient's general nutrition looked out for. The leg should be rendered surgically clean by the generous use of sinol soap, followed by irrigation of Thiersch solution. No matter what the cause of the ulcer be, it is wise when

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Induces natural sleep, without harmful reaction, and is therefore indicated in the treatment of Nerve Derangement, Hysteria, Insomnia, and Dentition, and during the Menstrual Period, Pregnancy and the Menopause. It is nature's remedy, prepared from the fresh, green May Pop and performs its function as a sedative and hypnotic normally and promptly.

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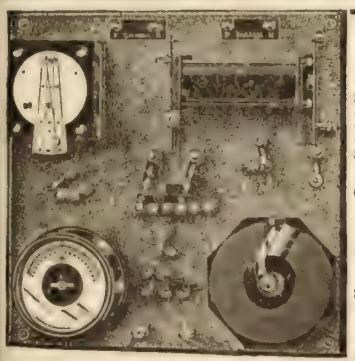

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possible to confine the patient to bed with the foot elevated during the course of treatment; the limb should be firmly bandaged, extending from the toes to a point several inches above the ulcer. If possible, excision of the veins of varicose ulcer should be performed. Ulcer covered with unhealthy granulating surface or sloughing edges should be curetted, after which thoroughly irrigated with Thiersch solution, and dressed every twenty-four or forty-eight hours with a hot Thiersch pack. When the surface presents healthy granulation, applications of Bovinine pure should be made, changing them three times in twenty-four hours. The most careful toilet of the limb should be made at each dressing. As a rule the basis of all chronic ulcers is made up of an unhealthy, granulating mass, consequently it is impossible to bring about a cure until this has been removed. It will be readily appreciated that an ulcer thus covered cannot absorb, consequently the great nutritive properties contained in Bovinine cannot be effective. This mode of treatment may be applied successfully to any form of ulcer no matter what its cause may be.—J. RYLE, M.D., Stamford, Conn.

THE GROWTH OF MEDICO-CHI.—The opening of the Medico-Chirurgical College this fall brings to mind the phenomenal growth of this notable Philadelphia institution.

It now has the largest and finest clinical amphitheatre in the world. It was among the first to adopt a graded curriculum covering three complete sessions, and later lengthening the required course to four years, thereby elevating the standard of medical education. The system of personal clinical work both in medicine and surgery was early recognized as of paramount importance, and systematic work in these branches established. The Medico-Chirurgical Hospital affords the students ample opportunity for practical instruction.

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URITONE is indicated in cystitis, pyelitis, purulent inflammation of the prostate, pyuria, phosphaturia—indeed, in that whole group of disorders which, arising from fermenting and decomposing urine, assumes as many forms as there are vulnerable points in the genito-urinary tract.

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It has been used with gratifying success in epilepsy, chorea, hysteria, insomnia, etc. As one noted pathologist asserts, BROMETONE is serviceable in that large class of ailments in which it is incumbent that the nervous mechanism be rested, not drugged into insensibility.

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To the notes below and on the following pages, also in future issues, we respectfully direct your attention.

Very truly yours,
THE BUSINESS MANAGER,
Box 484, Detroit, Michigan.

COUGH.—It is not always an easy matter to decide upon the cause of a cough, and, therefore, sometimes a difficult matter to relieve or cure it. Many patients go about their work, appear in excellent health, and yet suffer more or less from a persistent irritating cough. Examination of the chest in these cases does not show anything abnormal in the respiratory murmur. Examination of the throat often reveals an elongated uvula which is frequently cured by a simple astringent gargle, and the cough disappears. Again, examination reveals congestion of the vocal cords, and a soothing inhalation of a teaspoonful of compound tincture of benzoin in a teacup of hot water frequently causes the cough to be relieved in a short time. But the general practitioner, especially during the winter or spring, meets with a great many cases of cough, the cause of which he cannot fathom. He calls it an irritating cough, but the cause of the irritation is a mystery. Experience will soon show that it is irritating to both the patient and physician. To the latter because he finds that it coninues in spite of his best efforts, and at last the patient drifts from one physician to another without getting relief. Eventually he takes his case in his own hands, and buys from druggists some of the numerous cough remedies they have for sale. Still no relief, and he finds his stomach thoroughly out of order because opium has been a constituent of the quack mixtures he has taken. Nature, the *vis medicatrix naturæ*, possibly comes to his aid, the cough disappears, but no thanks to his doctor or his own prescribing. This is a brief sketch of what I know occurs to hundreds of physicians, as it certainly has to me. Among the late remedies for this class of cases is heroin, and it certainly has proved a valuable addition to our *materia medica*. There are many combinations in use of which heroin is the chief constituent. Some, in my opinion, are not to be recommended for general use. What is needed is a safe and efficient preparation whose action is positive and definite. Such a combination we have in Glyco-Heroin (Smith), made by Martin H. Smith Co., of New York, to which my attention was drawn about a year ago. Each drachm of this mixture contains heroin, gr. 1-16; ammonia hypophos., hyoscyamus, white pine bark, balsam tolu, glycerin ad 5j. The astringent properties of white pine bark are of peculiar service in inflammations of the respiratory tract. It also is of use in arresting the night sweats of phthisis. Balsam of tolu is an aromatic stimulant useful in chronic bronchitis or in the advanced stage of the acute disease. Altogether this mixture has, in my hands, proved to be of the greatest value, and at least a dozen of my medical friends to whom I have recommended it are loud in its praise. I give below the report of a few out of many cases in which I have used it. I may state that the first case is that of the writer.

Case 1.—F. W. C., aged 62 years, general health good. On the 23 of January, 1901, about 10 P.M., visited one of the worst fires Montreal has had for years; was exposed to great heat for about fifteen minutes, when he left to return home. Had to stand some minutes waiting for an electric car, and found that the body, which had been perspiring freely, began to feel chilly. On reaching home lighted a cigar, but before smoking half of it was seized with a very severe rigor.

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RESULTS from treatment are essential to both patient and physician, experiments are expensive. Better cling to an established standard product. Allopathic, Homeopathic, Osteopathic and Eclectic physicians all disagree as to the dose, application and therapeutic effect of remedial agents with the single exception of

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J. S. TYREE, - CHEMIST, - WASHINGTON, D. C.

Went to bed, and the rigor lasted at least twenty minutes, when it left; no perspiration followed. Passed a restless night, and, in the morning, feeling quite ill, sent for a medical friend, who found my temperature 102°, pulse 100, respiration 28, and evidence of commencing pneumonia in the anterior part of the right lung. It is needless to follow the case minutely. Briefly, the whole anterior portion of the right lung became involved, and the inflammation extended to the hepatic peritoneum. It was a serious condition for a man of 62 years, and for several days the outlook was ominous. But a good constitution, good treatment, and splendid nursing brought about a favorable termination. There, however, remained an irritative spasmodic cough without expectoration, which was most annoying, as it disturbed sleep, and, therefore, retarded convalescence. To relieve this condition a mixture containing a couple of drops of dilute hydrocyanic acid with half a teaspoonful of paregoric was prescribed with but little relief. I then prescribed for myself, changing the mixture several times, getting some relief from day attacks, but at night the cough was bad as ever. Seeing in one of my medical journals an advertisement of Glyco-Heroin (Smith), I sent for a sample to New York, as it was not to be had in any drug store in Montreal. I soon received through the postoffice four ounces, and within forty-eight hours very marked relief ensued, and by the time I had used the four ounces I was almost well. Four ounces more completely cured me. I have kept a bottle of it in my house ever since, and two or three times during the year a threatened return has been promptly relieved by two or three doses of a teaspoonful, which is the proper quantity for an adult.

Case 2.—Miss A. P., about 24 years of age, has been a patient of mine all her life. For the last four or five years has every spring been attacked with a spasmodic cough which lasted from two to three months which I failed to re-

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lieve. Thinking possibly that there might be trouble in the throat, beyond my view, which might be the cause of the cough, I sent her once to Dr. Birkett, throat specialist. He reported that his examination was negative. The cough as usual continued till the weather became very warm. Last spring she consulted me for the same cough, and told me very candidly that if I failed to relieve her she would try some one else. I prescribed Glyco-Heroin (Smith), four ounces, and before she had finished it she was completely cured. She so far this spring has had no occasion to consult me.

Case 3.—J. L. F., a physician (specialist), consulted me in August, 1891, for a hoarse spasmodic cough, which was most aggragating both by night and day. He feared whooping-cough, as his sister's children, who resided in the same house, were all down with the disease. I prescribed for him four ounces of Glyco-Heroin (Smith). Within a few days he reported to me that he was fifty per cent better. I think that he repeated the same quantity twice, by which time he was practically cured.—FRANCIS W. CAMPBELL, M.A., M.D., D.C.L., L.R.C.P., London, Dean and Professor of Medicine, Faculty of Medicine, University of Bishop's College.

HEPATIC COLIC AND GASTRIC CATARRH SUCCESSFULLY TREATED BY LAVAGE OF THE STOMACH WITH HYDROZONE.—The patient, an engineer by profession, of fair size and weight, about 45 years old, of temperate habits, nervous temperament, has been a severe sufferer of hepatic colic and catarrh of the stomach for several years. Although having a fair appetite, the patient had frequent attacks of vomiting a large quantity of mucus and bile.

In addition to the above symptoms, he was troubled with periodical attacks of hepatic colics, which were so severe that I was induced to diagnose his trouble as being caused by the presence of gall-stones.

None of the remedies which were pre-

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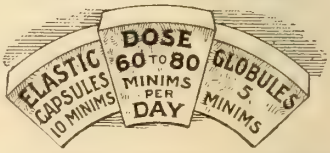

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scribed previous to January 5, 1904, seemed to have any beneficial effect, while the periodical acute attacks made their reappearance more frequently (every four or five weeks).

Having read in medical journals several clinical reports in which Hydrozone and Glycozone were highly recommended in the treatment of diseases of the alimentary canal, I concluded to prescribe Hydrozone before meals and Glycozone after meals in varying doses for about two months without any appreciable benefit. A dose of castor oil was also administered every other week, while olive oil was given at bedtime.

The patient was growing weaker quite rapidly until an acute attack of hepatic colic, which occurred beginning of April, 1904, plainly showed that the above treatment was not powerful enough to subdue the cause of his trouble.

Then I persuaded him to resort to lavage of the stomach with diluted Hydrozone.

I commenced treatment on the 5th of April, 1904, with Hydrozone 100 grammes, warm water one quart; the stomach was washed every third day in April and every second day in May, when the Hydrozone was increased to 150 Cc. (about five fluidounces), and was kept at that amount throughout the treatment; during the month of June the stomach was washed out every day, July every fourth day, August and September once a week.

The improvement was noticeable already at the end of April, when the quantity of bile and mucus was much lessened. In September the benefits derived from this treatment proved conclusively that it had not been used in vain. Internal treatment was by means of Glycozone, two teaspoonfuls before and after each meal, and every three weeks a good dose of oleum ricini.

Up to date the patient has not had another attack of hepatic colic since April, 1904, while he is now enjoying good health.

The results that I have obtained in this

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particular case are so gratifying that I resort now exclusively to Hydrozone and Glycozone in the treatment of all cases of stomach diseases, and I believe that with the exception of stomach and intestinal disorders resulting from the presence of a malignant growth, all other cases can be successfully treated as above outlined. —FRANCIS H. WEISEMANN, M.D., New York City, in the *Saint Louis Medical and Surgical Journal*, August, 1905.

QUINCY, ILL., April 24, 1905

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A. W. MEYER, M.D.

DR. P. W. STREET, Suffield, Conn., published in the *Medical Record* of October 11, 1902, a report of which the following is a brief excerpt:

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the thoughts and relieve monotony, and the result is soon seen in the increasing strength of the body and the activity of the mental processes which reassert themselves.

THE TREATMENT OF NASAL CATARRH.—For years I have used various remedies and met with varying success, until tiring of one remedy after another I relied solely on potassium permanganate in weak solutions as a nasal douche, but a review of some points in this paper will show why I always sought for something else. Glyco-Thymoline has usurped the place of the permanganate solution in my armamentarium, and after sufficient trial established faith, implicit faith, in its specific therapeusis for this condition. A knowledge of its essential constituents and their therapeutic action only tends to strengthen a belief in its specificity. Caution is necessary in the selection and use of remedies, but a fair trial has proven no untoward inconvenience emanating from the use of this remedy. Meanwhile the therapeutic results are gratifying, and the good effect of Glyco-Thymoline can be easily verified by a trial, when conclusion will be the result of practical truths only.—JOHN A. HALE, M.D., Alto Pass, Ill.

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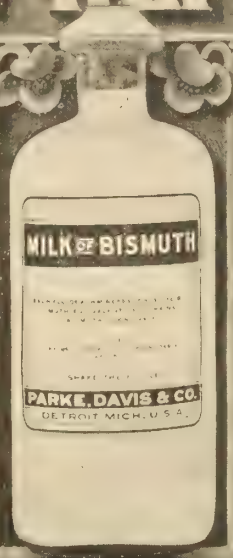

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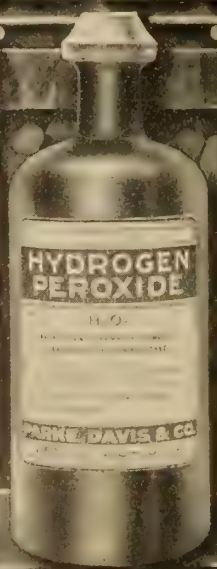

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